1986 ANNUAL REPORT

Environment Council of Alberta

Alberta

ENVIRONMENT COUNCIL OF ALBERTA

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87-04466/

1986 ANNUAL REPORT

ENVIRONMENT COUNCIL OF ALBERTA

April 1987

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ISSN 0705-5811
ECA 87-AR

Letter of Transmittal

Lieutenant-Governor in Council
Legislative Building
EDMONTON, Alberta

Honorable K. Kowalski
Minister
Department of Environment
132 Legislative Building
EDMONTON, Alberta

Sirs:

I have the honor to transmit herewith, the Annual Report of the Environment Council of Alberta for the year 1986 as required by Section 7(1)(h)(i) of The Environment Council Act.

I have the honor to be Sir,

Your obedient servant,

A.D. Crerar
Chief Executive Officer
Environment Council of Alberta

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1. MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

The highlights of 1986 for the ECA have been the progress on the Conservation Strategy for Alberta, the recycling public hearings, and the release of the reports reviewing the Clean Air Act and the Clean Water Act.

The recycling hearings brought forward 134 briefs, the bulk from 14 hearings at 11 centers throughout Alberta. The Panel discovered that recycling is not a controversial or high-profile issue. In fact, everyone agrees that recycling is a good thing and that we should be doing more recycling. The problem is, why, with all this benign approval, don't we do more recycling? It is this basic question that the Recycling Panel was wrestling with toward the end of 1986. Their thoughts and suggestions on how the passive benevolence toward recycling can be turned into active adoption of recycling will be the theme of the report and recommendations on recycling due to be completed early in 1987.

The other major task of the Council was the further development of a conservation strategy for Alberta. At the Annual Joint Meeting of the Public Advisory Committees (PAC) and the Council in December of 1985, the *Prospectus for an Alberta Conservation Strategy* was adopted unanimously by PAC. The *Prospectus* was released in March, 1986. It has provided a plan of action for the development of a Conservation Strategy for Alberta (CSA). The development of a provincial conservation strategy has become a priority task for many PAC members, assisted by representatives from industry, government, and other affected interests. The details of the approaches used, the tasks undertaken, and the progress achieved are recorded elsewhere in this annual report. However, I would like to reflect on how the development of a conservation strategy fits into the overall approach to the preservation and, optimistically, the enhancement of the environment we all share.

There are three main approaches to environmental conservation – Explore and Discover, React and Cure, and Anticipate and Prevent. Each of the approaches is essential to a balanced program of environment conservation. Too much concentration on one aspect at the expense of the others leads to distortion, missed opportunities, and wasted effort.

The Explore and Discover aspect of environment conservation is represented by scientific research and technological development. Science apprises us of the state of the environment, the trends in its health, its resiliency, and its prospects. It also provides an appreciation of the causal chain – how one event affects another and then another. What is becoming increasingly apparent is that, of the sciences, biology and ecology, the core of the environmental sciences, are far more complex and challenging than the hard sciences such as physics and chemistry. For the brilliant young minds of today, the real intellectual challenges lie in the life sciences where exploration and discovery are still in the high-payoff phase, where major breakthroughs are yet to be made, where complex and subtle interrelationships have yet to be identified

and clarified. It is only on the basis of sound science and a firm understanding of consequences that we can hope to solve the problem of effective environment conservation. A lack of understanding and appreciation of the complexity of the environment will lead us to counter-productive solutions, such as the high stack approach to the problems of air pollution and sulphur deposition.

The problem of sulphur emissions was initially identified as excessive emissions in the immediate vicinity of the plant. The solution was to build very high stacks that would enable the emissions to be dissipated over a wider area in a much diluted form. The solution, however, though it achieved its objective of local dilution, resulted in the long-range transmission of atmospheric pollution (LRTAP), introducing acid-forming emissions into landscapes that were particularly susceptible to damage. The poorly buffered lakes of the Canadian Shield, for example, were so sensitive to additional acid deposition that their acid balance shifted out of the range that sustains many forms of aquatic life. Hence the growing number of "dead" lakes in northern Ontario and Quebec resulting from a solution to the immediate emissions control problem of power plants in the American Midwest.

There are any number of consequences that arise because we do not understand the complex nature of the problems that we face, and because of the unexpected byproducts of some of our obvious and initial responses to them. The basis for tackling any environmental problem is the development of a sound scientific understanding of the problem and the identification of ways by which such understanding can be spread. That is the major role of the Science Advisory and Environmental Education Advisory Committees to the ECA. Both Committees are made up of specialists in their fields willing to provide disinterested, professional advice that will identify the scientific parameters of environmental problems and how that knowledge can be transmitted to the public at large.

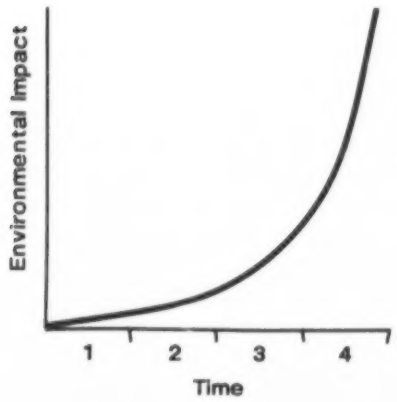
The React and Cure approach has been the priority solution to environmental problems, and much of the time and effort of some sub-committees of PAC have been devoted to this approach. The React and Cure approach is still an absolute necessity. There are any number of instances where environmental disasters have been averted or where major improvements to environmental quality have been achieved by the React and Cure approach. The classic sequence is that a problem is identified, a solution is developed, a cure is effected. All of our pollution control legislation, waste treatment, habitat rehabilitation, designation of endangered wildlife, and spills and damage control approaches are variants, or different stages, of the React and Cure approach.

The normal pattern is that an environmental problem appears, it is identified, the reason for its occurrence is ascertained, and counteraction to reduce or eliminate it is undertaken. A major problem with this approach is the opportunity for delay and error at every step of the way. Many environmental problems appear as minor, inconsequential perturbations that can be readily misinterpreted as part of a natural cycle or as being due to some other natural phenomena. Waldsterben first appeared as a few unhealthy trees in the forests of southern Germany and adjacent Czechoslovakia. They were initially diagnosed to be affected by disease or fungi and though these natural forces had a role to play, it seems that their pathway into the tree was made easy by the weakening, by airborne pollution, of the tree's natural defenses. But what form of pollution? The culprit is not yet firmly established, but it seems to be automobile exhausts. This creates real problems in Germany which, until recently, had no emission controls on cars for the domestic market and no speed limits on the Autobahn. (Higher speeds increase emission levels.) Germany is now moving rapidly to install more effective emission control devices on its domestic vehicles, but, as yet, is not willing to enforce speed limits on the Autobahn.

Meanwhile, the phenomenon has been observed in North America in the sugar maple bushes of Quebec and Vermont. It may or may not represent the same causal chain as the forest death in Germany, or the cause may be more related to sulphur emissions and acid precipitation. In both instances

the problem has now been identified, but the cause has not been clearly established. That process can take years, even decades. With acid rain, there is still U.S. government skepticism that sulphur emissions are not the main cause of the acid rain phenomena. It is true that automobile emissions and other sources may be important contributors to acid precipitation, but the lack of scientific precision is a convenient excuse when the U.S. problem is mainly carried away by the prevailing winds to more vulnerable habitats in Canada. Since the precise nature of the "cure" cannot be identified, continuing delays occur. Meanwhile the problem worsens.

There is an almost universal pattern to environmental concerns, which is best understood by considering the following graph:



The vertical axis of the graph indicates the increasing seriousness of the problem, whether this is acid rain, soil erosion, photochemical haze over Calgary, or municipal waste disposal in Edmonton. The horizontal axis represents time; it can be four months, years, or decades.

With most environmental problems the build-up period is slow, the observed impacts are slight, and the effects virtually negligible for a long period of time. The period when prevention, modification, or amelioration is easiest is during the early stages during time periods 1, 2, and 3. However, this is normally the time when the effects are least, when the self-cleansing capability of the environment seems to be perfectly capable of dealing with the problem. That is the major challenge with an Anticipate and Prevent approach. This approach tries to tackle the problem at time stage 1 or 2 when the impact is slight and prevention or amelioration easiest. Pressure for early action lays those who wish to Anticipate and Prevent open to accusations of alarmist, obstructionist, and meddler. With the often tenuous scientific base and the lack of clear causal chains, these accusations are easy to make and hard to refute.

Alberta has one major advantage, however. We generally rest lightly on our environment, compared with other jurisdictions. It is not that we are so much better as individual conservers or environmentalists, just that there are fewer of us. Problems, therefore, appear in their full-scale impact in Europe or the Los Angeles basin or the Eastern Canadian woods and lakes before they appear here. We have other parts of the world as our distant early warning systems, if only we are willing to learn from their mistakes and if we are willing to admit that "it can happen here."

We have lived through one major episode where the full, cumulative impact of an environmental disaster was experienced in the southern half of the province – the drought of the 1930s. That was partially due to a natural phenomenon, the cyclical droughts that the prairie grasslands periodically experience. However, it was exacerbated by the conventional cultural practices in agriculture of the 1920s and 1930s, particularly the grain/fallow, grain/fallow rotation. The proof is that the drought of the '80s has been almost as bad as that of the '30s – in some places it was worse – but the impacts have been much less, because preventive actions such as low till, trash management, and stubble conservation had been practiced by many farmers. The ones who saw their soil blow were those who still practiced grain/fallow rotations and would not change.

It is the role of a conservation strategy to Anticipate and Prevent. It will have to look at environmental problems that have been experienced in other parts of the world and see whether there are examples where, in population densities and

industrial development much greater than ours, they have been able to prevent or ameliorate an environmental problem or, if they did not, why not. Calgary should be able to learn from the Los Angeles basin how to avoid photochemical smog when Calgary's population reaches one million people, the conservation of the Eastern Slopes can profit from the experience in Colorado, and Edmonton can learn solid waste management techniques from southern Ontario. There is the opportunity for Alberta to learn from the mistakes of the present and the past and maintain the quality of one of our most precious and appreciating resources — our clean environment and our well-managed natural resources.

That will be one of the main tasks of the Conservation Strategy for Alberta: to identify emerging problems, to anticipate their direction, and to prevent their acceleration and accumulation. By catching them early and treating them carefully, we should be able to accommodate both economic development and environmental conservation at least cost and least impact. To do that will require the separation of the critical and essential from the beneficial and desirable. In a pluralistic society with differing value systems, this is not an easy task. Fortunately there is less disagreement about the need for a clean environment with an abundant and vigorous wildlife population, and the desirability of sustaining both over the long term, than there is about many things. Where the difficulty will arise is in defining what constitutes "clean," where the criteria should be applied, the extent to which development can be accommodated while maintaining acceptable standards, and, of course, who should pay. It is answers to difficult questions like these that will have to be hammered out in the development of a conservation strategy for Alberta.

There was one concern in 1986 that is going to be corrected. There is a tendency, with the development of a conservation strategy, to try to encompass more and more on the principle that everything is connected to everything else and could benefit by being incorporated within the strategy. The realities of budget restrictions will ensure the containment of that tendency, since the strategy itself will have to identify critical sectors and questions that must be answered and the less important that may have to be deferred or deleted. In this way, adversity can be put to advantage, which is an essential theme for 1986 and succeeding years.

2. POLICY AND PROGRAM REVIEW

2.1 MINISTERIAL REPORTS

The 1985 Annual Report contained reports to the Minister of the Environment reviewing the effectiveness of the Clean Air and Clean Water Acts. Those reviews were supported by staff reports released in 1986. By the end of the year, 1,635 had been distributed. The reports are available from the Environment Council Library in Edmonton.

2.2 CONSERVATION STRATEGY

The major effort in policy and program review in 1986 consisted of working toward the development of an Alberta Conservation Strategy, by looking at the way Alberta's existing policies and programs mesh with the goals and objectives of the World Conservation Strategy. Alberta is a leader in many areas related to resource use and management. Now, especially with the emphasis on fiscal restraint, we need to find ways of integrating our sectoral policies and programs to ensure that our efforts are not working at cross-purposes or duplicating each other. The process in place for developing a draft Conservation Strategy for Alberta provides a forum for this very important discussion.

It is the nature of such a process that existing policies and programs must be thoroughly reviewed to identify where weaknesses may lie and how improvements might be achieved. During 1986, the Conservation Strategy Steering Committee sought to establish communications links with all government departments, with some success. The departments that have expressed interest in working with the Conservation Strategy sectoral groups throughout the conservation strategy process are valuable sources of insight and expertise, and the Steering Committee hopes to broaden these communications channels in the future.

Progress during 1986 toward a Conservation Strategy for Alberta is described elsewhere in this report (see Section 4.4).

3. PUBLIC HEARINGS

On February 20, 1985, the Environment Council received the terms of reference for public hearings on recycling. A background information package was prepared in that year in anticipation of hearings in 1986. The Hearing Panel was appointed in the first quarter of 1986 and consisted of:

Merril Morstad, Chairman. Mr. Morstad, an Edmonton resident, held various positions with Renn Sales Edmonton Ltd., including president and general manager. He is past president of the Alberta Farm Equipment Wholesale Association, and active in many community groups.

Alistair Crerar, Vice-Chairman of the Panel by virtue of his position as Chief Executive Officer of the Environment Council of Alberta. Mr. Crerar is an economist and planner.

David Chan, Member. Mr. Chan is an architect who graduated from McGill University and is practicing in Calgary. He is active in charitable and volunteer community work, including Calgary's Chinatown Lions Club.

Robert Jones, Member. Mr. Jones is retired from farming and lives in the Warner area. He is involved with a number of local community activities, including the Warner Chamber of Commerce, the Elks Club, and the Border Counties Hospital Board.

Gordon Osgood, Member. Mr. Osgood worked for Domglas in Redcliff for many years. He has been active in numerous service organizations, such as the Redcliff School Board and the Redcliff Planning Commission.

3.1 INFORMATION PROGRAM

Prior to the hearings, the Environment Council made a substantial effort to contact persons who might be interested in recycling. This included the general public, persons involved with volunteer organizations and recycling projects, industries directly or indirectly affected by recycling or the recovery of energy from waste, generators of potentially recoverable waste, enterprises interested in the use of recovered materials, and government officials at all levels.

A mailing list of about 2,400 individuals and organizations was developed and these persons received notification of reports, a newsletter describing the recycling hearing process and introducing the Hearing Panel, and notices with dates for the ECA's information meetings and the hearings. Press releases were sent out to all media in Alberta as well as to appropriate periodicals and journals. Advertisements were placed in newspapers and with radio stations around the province.

Prior to the hearings, seven background reports were prepared; 8,414 copies of the reports were distributed in 1986. The reports and the video tape are listed below and are available from the Environment Council Library.

Garbage to Gold? Issues and Opportunities – This report presents the terms of reference for the hearings, describes the hearing process, and provides a summary of the background reports, highlighting some of the issues relevant to the hearing and public consideration of the topic.

Municipal Solid Waste – Alberta's Untapped Resource? – About 1.8 million tonnes of municipal solid waste are discarded each year in Alberta. This report answers questions such as: what is the composition of this waste? How is it collected, transported, and disposed of? What waste treatment practices are available to handle this waste and what might be done in the future?

Resource Recycling in Alberta – This report discusses the amounts of metals, rubber, glass, lubricating oil, plastics, and paper used and recycled in Alberta and some of the opportunities and constraints that affect increased recycling of these materials.

A Social Perspective of Recycling in Alberta – In this report recycling is examined from a social perspective. What are the roles of public attitudes and personal motivation? What are some of the social costs and benefits of recycling? The report also describes the involvement of individuals and groups in recycling activities.

Economic Barriers to Recycling – This report discusses some of the environmental advantages to recycling in the context of the flow of materials through the economy, and describes some basic economic obstacles to recycling and to increasing the supply of and demand for recycled products.

The Use of Municipal Waste as Fuel – This report, prepared in 1983, reviews literature related to the use of municipal waste as a fuel for power generation and discusses some of the options that involve separation and processing of usable elements in the waste. The report also describes some issues relevant to discussion of landfilling versus energy and resource recovery options.

Bibliography of Recycling – This is a bibliography of reference materials used in the preparation of the background reports. It is not a complete listing of reference sources, but it does provide an excellent starting point for those who wish to pursue the topic further. Libraries and call numbers are provided where possible.

Video Tape – The Environment Council of Alberta, in co-operation with Alberta Environment, also had prepared a video tape called *One Man's Garbage, Another Man's Gold?* This 15-minute video tape was used during the information program to provide an overview of recycling in Alberta and discussion of some future options. It may be borrowed from the Environment Council Library.

Information meetings were held at the 11 locations where hearings were to be held. These meetings featured the video tape and a panel discussion about local recycling issues and present Alberta government policies and programs, as well as information about the hearing process and the ECA's role and mandate.

Environment Council staff also met with regional planning commissions and persons involved with recycling projects and spoke at various conferences and meetings. Once the Hearing Panel had been appointed, members of the Panel participated in press conferences and interviews, and also met with community organizations.

3.2 THE HEARINGS

The public hearings were held in May and June at 11 locations across the province: Calgary, Medicine Hat, Lethbridge, Red Deer, Hanna, Olds, Camrose, Vermilion, Edmonton, St. Albert, and Grande Prairie.

In total 134 briefs were received, including 23 submissions received after the hearings. Thirty-five percent of attendees registered as private citizens, 23 percent were affiliated with some level of government, 17 percent with industry, 16 percent with an organization or educational institute, and 9 percent were in miscellaneous categories including the media.

Verbatim transcripts were made of the hearings. These transcripts, on computer discs or paper copy, are available in the Environment Council Library.

3.3 CONTENT ANALYSIS

The briefs submitted covered a wide range of ideas, interests, and concerns reflecting the broad cross section of society that participated in the hearings. In order to give proper consideration to the volume of information, the Environment Council developed a computerized information base, as follows: all briefs, the questioning of presenters, and the subsequent discussion period were carefully analyzed. All of the ideas, concerns, information, and recommendations were recorded for input into a computer, and each comment was coded to indicate the subject covered by the comment. The comments then were indexed according to the codes. In this way information on any subject discussed during the hearings could be readily accessed. The result of this content analysis was a computerized information base containing approximately 2,800 pieces of information on all aspects of the recycling of wastes in Alberta.

3.4 POST-HEARING MEETINGS

After the hearings, the Panel met with provincial and federal government departments and agencies whose policies and programs could have an impact on recycling in Alberta. These meetings concluded in mid-October. The agencies were:

Provincial Government

Alberta Government Telephones
Alberta Liquor Control Board
Alberta Research Council
Alberta Special Waste Management Corporation
Community and Occupational Health
Economic Development and Trade
Education
Energy
Energy Resources Conservation Board
Environment
Forestry, Lands and Wildlife
Hazardous Chemicals Act Advisory Committee
Municipal Affairs
Public Works, Supply and Services
Social Services
Technology, Research and Telecommunications
Transportation and Utilities

Federal Government

Energy, Mines and Resources
Environment
Regional Industrial Expansion

Others

Alberta Brewers' Agents Ltd.
Contain-A-Way
Alberta Soft Drink Association
Edmonton Telephones

The Panel also visited many recycling projects and industries using recycled materials in Alberta. In addition, members of the Panel attended conferences, met with government officials, and visited recycling operations in Ontario, British Columbia, and Washington state.

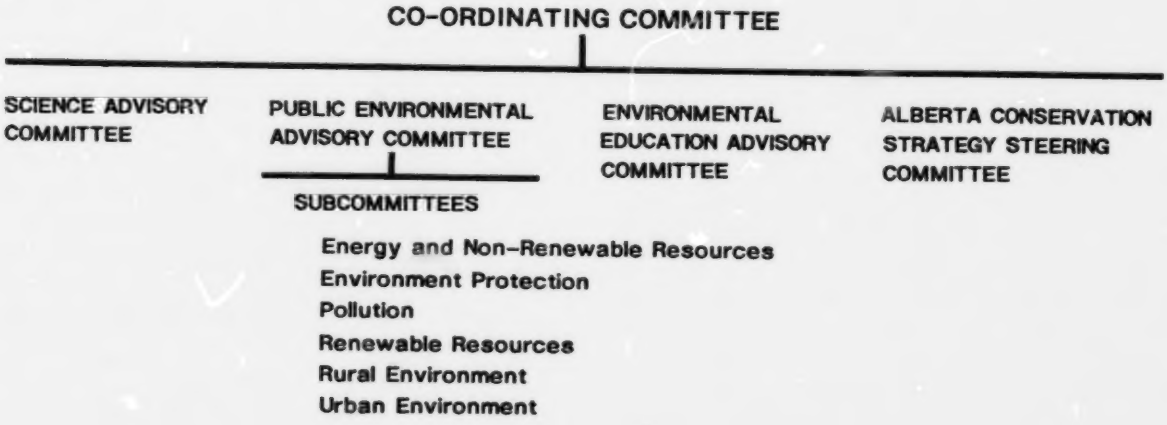
3.5 REPORT AND RECOMMENDATIONS

At the end of 1986, preparation of the Report and Recommendations was well underway. It should be completed in the first quarter of 1987.

4. PUBLIC ADVISORY COMMITTEES

The Public Advisory Committees are the volunteer arm of the Environment Council and serve as a major interface between the Government of Alberta and its citizens with regard to environmental matters. The Public Advisory Committees identify and consider emergent environmental issues and problems; they serve as an early warning system, express public concern, and provide advice to government.

4.1 ORGANIZATION OF THE PUBLIC ADVISORY COMMITTEES



4.2 MEMBERSHIP

The Public Environmental Advisory Committee is made up of affiliated and unaffiliated members. Affiliated members are nominees of various organizations, associations, and institutions. These groups have a demonstrated interest in the environment, represent a significant constituency, and are reasonably provincial in scope. Unaffiliated members are individuals whose special capabilities are recognized by the Environment Council to be of exceptional value. They are usually long-term Public Advisory Committee members who no longer represent a specific group. The current roster stands as follows:

126 member organizations
116 representatives currently appointed
36 alternate members
19 unaffiliated members

The Environmental Education Advisory Committee is composed of professional educators and communicators from government, broadcasting and related industries, academic institutions, the teaching profession, and the public at large. Currently, 18 individuals are members.

The Science Advisory Committee is a multidisciplinary group, composed of scientists drawn from academic institutions, government, scientific agencies, and industry. Eighteen members are formally appointed at this time.

As of the end of the year, 207 dedicated citizens are formally appointed to the Public Advisory Committees. This represents an increase of six since the end of last year. The names of the individuals who serve on the various committees and sub-committees are listed at the end of the respective chairman's report (see Section 4.3).

4.3 CHAIRMEN'S REPORTS

4.3.1 CO-ORDINATING COMMITTEE

...responsible for the overall co-ordination and efficient functioning of the three Public Advisory Committees.

Report from the Chairperson –
Mr. R.M. (Bob) Richardson

The Co-ordinating Committee of the Public Advisory Committees met monthly, with the exception of July and August, during 1986. The Committee continued its move toward a true co-ordinating function, allowing the sub-committees maximum independence in their spheres of activity.

As suggested in the fall 1984 Effectiveness Workshop, a parliamentary procedure workshop to improve the effectiveness of sub-committee chairpersons was held as part of the Co-ordinating Committee meeting in January 1986. The need for further training for sub-committee chairpersons will be evaluated annually by the Co-ordinating Committee, and further workshops of this kind will be scheduled as required.

The new, more comprehensive Roles Document for the Public Environmental Advisory Committee, the Science Advisory Committee, and the Environmental Education Advisory Committee has been completed and submitted to the Minister of the Environment for his endorsement. This new Roles Document includes a more comprehensive set of terms of reference for each Sub-committee. This will assist the Sub-committees in focusing their activities more effectively, and in providing member organizations with an improved means for selecting the Sub-committee through which their representatives can contribute most effectively. It will also clarify our role with respect to the various government agencies, and help us to improve our relationships with them.

A reorganization of the Sub-committees was completed in 1986. The Energy Sub-committee and the Non-Renewable Resources Sub-committee were combined to minimize overlap. The Rural Environment Sub-committee was formed to deal with problems in the rural areas of the province, which had previously not been adequately dealt with. The Rural Sub-committee met for the first time in September, 1986. We are very encouraged by the high level of interest and participation it has already received.

Guidelines for the acceptance and administration of grant monies offered to Sub-committees to carry out specific studies were set up and approved at the November 1986 meeting. These guidelines will be circulated to all members and should be retained for future reference.

The change in Minister of the Environment in May together with the summer/fall session of the Legislature caused some disruption in communication with the Minister. As a result, we were unable to meet with the new Minister until November 18.

Based on the results of that meeting, the Co-ordinating Committee anticipates a good working relationship with the Hon. Ken Kowalski.

An emergency resolution, prompted by ERCB approval of Shell's application for a drilling permit in the South Castle River valley, was submitted by the Environment Protection Sub-Committee and approved at the June meeting of the Co-ordinating Committee. The resolution, *Be it resolved that the Government of Alberta proceed with its original plan to establish a Wildland Provincial Park in the South Castle area*, was immediately forwarded to the appropriate Ministers. Answers have been received from two Ministers at the time of writing this report, but we are still awaiting comments from two other Ministers.

The 1985 PAC resolutions were endorsed by a number of local and regional agencies, including the Red Deer Regional Planning Commission and the Calgary Regional Planning Commission. However, the responses from the Alberta Government to our 1985 resolutions were not received until October 29, 1986. We are very disappointed with the delay in response as well as lack of clarity of some of the responses. The effectiveness of the resolutions is greatly diminished by this delay. It is impossible to provide timely advice to our government unless issues can be discussed directly with the appropriate departments more openly.

The Public Advisory Committees appointed Dr. Lub Wojtiw to the organizing committee of Environment Week 1986 and he made a significant contribution to the success of this event. PAC's involvement will be increased in the organization of Environment Week 1987, since Lub has again volunteered to be a member of the organizing committee and Dr. Sheri Dalton has volunteered to serve on the program committee.

It was very gratifying that, subsequent to his appointment as Minister, Hon. Ken Kowalski endorsed the concept of the Alberta Environment Awards as initiated by the Environmental Education Advisory Committee. He has confirmed publicly that the first awards will be made during Environment Week 1987.

Work on the Conservation Strategy for Alberta continued to make good progress in 1986. Information kits and the Prospectus document were published in March, 1986 and work on the major document has begun. The Steering Committee divided the project into 16 sectors, and has appointed a co-ordinator for each sector. The theme of the 1986 Annual Joint Meeting will be "Provincial Conservation Strategy – Sustainable Development" and the workshops will be devoted to review of draft sector documents.

The chairperson and vice-chairperson of PAC were panel members of separate seminars at the Community Planners Association annual meeting and, as representatives of PAC, spoke on sections of the Conservation Strategy for Alberta.

The Canadian Environmental Advisory Councils held their tenth annual meeting in Edmonton on September 24-26. Members of the Co-ordinating Committee and the Conservation Strategy Steering Committee were invited to take part and six members took advantage of the opportunity.

I would like to express my appreciation to the members of the Co-ordinating Committee for their co-operation and support during the year. Alistair Crerar, Archie Landals, Ken Nelson, Randy Pretty, and the ECA research staff all deserve a vote of thanks from all members of PAC for their strong support of all our projects during 1986 and especially for their tremendous support of the Conservation Strategy for Alberta project. A special thanks is also due to the members of the Conservation Strategy Steering Committee, assisted by Mike Kelly and Kim Sanderson, whose tireless efforts have been instrumental in developing the Conservation Strategy to its present point. Finally, I wish to thank Ms. Maryhelen Posey for organizing the 1986 Annual Joint Meeting.

Mr. R.M. (Bob) Richardson
Chairperson, Co-ordinating Committee

Members of the Co-ordinating Committee

Mr. R.M. Richardson – Chairperson
Mrs. M. Posey – Vice-Chairperson
Dr. S. Dalton – Past Chairperson

Sub-committee Chairpersons

Mrs. A. Parkinson – Energy *
Mrs. D. Broadbent – Environment Protection
Dr. W. Buchta – Non-Renewable Resources *
Ms. J. Hedenstrom – Pollution
Mr. B. Meller – Renewable Resources
Dr. S. Dalton – Resolutions Committee
Dr. S. Dalton – Rural Environment
Mr. W.A. Flook – Urban Environment

Dr. P. Mahaffy – Science Advisory Committee
Mr. D. Stoker – Environmental Education Advisory Committee

* Amalgamated to form the Energy and Non-Renewable Resources Sub-committee effective September 1, 1986.

4.3.2 PUBLIC ENVIRONMENTAL ADVISORY COMMITTEE

...acts as a barometer of public opinion and concern on environmental issues. As an environmental advocate it provides ongoing advice to the Environment Council and government departments on emerging issues as well as feedback on various programs and policies.

4.3.2.1 Energy and Non-Renewable Resources Sub-committee

...efficient and environmentally responsible use of energy and non-renewable resources to sustain the long-term economy of Alberta, with a gradual transition to a greater reliance on renewable resources.

Report from the Co-chairperson – Mrs. Anna Parkinson

The Energy Sub-committee held six meetings during the year and, subsequent to the amalgamation with the Non-Renewable Resources Sub-committee, three more meetings in September, October, and November. For the three joint meetings for this year only, Dr. Bill Buchta and I offered to act as co-chairpersons. Elections took place at the November meeting.

Guest speakers were present at seven meetings; one field trip was undertaken to the Edmonton Energy Conservation Centre. In September, the meeting was organizational, being the joint one held by the combined group. Speakers were Mr. Art Janz from Northwestern Utilities on the uses of liquid natural gas and Mr. Ted Delong of Tigney Technology, who explained the advantages of a process called "steam explosion" using aspens. In March, Dr. Bill Ross made a presentation on energy requirements in Alberta from 1983 to 2010. In May, Dr. Walter Jones of the University of Alberta gave a talk on the uses of geothermal energy in Alberta, and, in June, Dr. Ghazi Karim introduced us to hydrogen as a source of energy. The October and November meetings dealt with present and future developments in uses of electrical power as presented by Mr. Tom Howard of TransAlta Utilities and the research program being undertaken under the auspices of the Environment Resource Research Fund as explained by Mr. Juergen Kleta of Alberta Energy and Natural Resources.

A brief on the generation of energy from combustible waste was presented to the recycling hearings on behalf of the Sub-committee.

A summary has been prepared collecting the results of our study of the feasibility, advantages, and disadvantages of the use of alternative fuels. These fuels include methanol, natural gas, propane, biomass (both as a heating fuel and as a source of chemicals), geothermal energy, and hydrogen.

The Sub-committee is very grateful to Betty Paschen, who has been our representative all year on the Steering Committee for the provincial conservation strategy. Betty has kept us up to date with developments in the Steering Committee and

has worked hard to produce drafts of her section of the strategy. She also does her best to keep the rest of us working on the draft, too! Kim Sanderson and Mike Kelly have also been extremely helpful in explaining the process and the requirements of the conservation strategy.

Our thanks also go to Archie Landals, Ken Nelson, and especially Randy Pretty for all their assistance during the year.

Mrs. Anna Parkinson
Co-Chairperson, Energy and Non-Renewable Resources Sub-committee

Report from the Co-chairperson — Dr. W. (Bill) Buchta

The Non-Renewable Resources Sub-committee had nine meetings during 1986. An initial planning meeting was held to outline the strategic approach to the year's activities and to priorize the year's agenda. The Sub-committee's decision was to put the majority of its efforts towards gathering information about and developing an understanding of the issues related to PAC's major initiative — the development of an Alberta Conservation Strategy. Although this thrust was perceived to be the objective of greatest priority, the Sub-committee decided that it should not result in other priority topics being excluded.

The Sub-committee supported and worked towards the reorganization of the Roles Document and amalgamation of the Energy and Non-Renewable Resources Sub-committees.

In order to gather some initial data with respect to topics of concern related to the conservation strategy project, several members of the Sub-committee took it upon themselves to review what non-renewable resource conservation procedures were in place in Alberta in the following sectors: (1) natural gas and conventional oil, (2) heavy oil and oil sands, and (3) electrical power. As a result of this effective individual effort, the Sub-committee was able to more efficiently examine these broad areas of concern.

A summary of some topics reviewed in detail during the year is presented below:

Projections for the Demand, Supply, and Regulation of Oil and Gas in Alberta

The ERCB's role as the regulator of non-renewable resources was reviewed. The Sub-committee reviewed ERCB forecasts. Although these forecasts were based on perceptions developed prior to the recent drop in oil prices, the Sub-committee felt that the mechanism of forecasting and the forecasts appeared to be appropriate and relatively reassuring when reviewed from the provincial demand perspective. Concern was expressed that lower prices will result in higher energy consumption and distort the projections.

Enhanced Recovery of Conventional Oil

The Sub-committee reviewed the current effectiveness of enhanced recovery techniques to determine if they were significant factors in energy supply. Experienced industry personnel described current techniques and future possibilities, including their effectiveness and cost.

The Sub-committee was told that success and cost effectiveness varies greatly, depending upon the particular oil formation and oil prices. In general terms, 12 to 15 percent of the available hydrocarbon is recovered without enhancement. Water injection is commonly used now and can result in the recovery of another 15 to 20 percent. Gas flooding and chemical enhancement techniques now available may result in the capture of another 4 to 11 percent in some circumstances.

The Sub-committee felt that given the eventual shortage of the resources and the magnitude of the 4 to 11 percent in terms of the physical quantity it represents, further development of these techniques would be highly desirable.

Industry's Perspective of Oil Pricing (Alberta and the World Scene)

Since resource use is dependent upon supply and price, the Sub-committee reviewed Alberta and world oil demand, supply, and other pricing factors, including political effects on the industry. Based upon the estimates of one guest speaker, hydrocarbon price may continue to be low for three to five years until supply and demand again balance or supply shortages develop. There is evidence to suggest that recent low prices have already resulted in increased energy consumption by consumers.

Oil Spill Preparedness

The issue of being able to effectively respond to and clean up an oil spill was examined. I believe it is accurate to say that the Sub-committee was reasonably satisfied with the progress that industry has made towards the ability to handle spills and with the commendable educational program given to industry employees who may have to deal with a spill. It is important to note that this progress has been achieved largely due to co-operation for the public good between normally competitive oil companies.

Still, development of innovative techniques should continue and research should continue into applications suitable to control difficult spill situations, such as wide rivers.

Energy Conservation (TransAlta)

The energy management systems of TransAlta were examined. TransAlta's Energy Service and Analysis Program (ESAP) was investigated. This service is provided to consumers to help them become aware of potential energy-saving procedures, thereby encouraging conservation. The Sub-committee was informed that the use of electrical power has increased dramatically over the years.

Anti-pollution technology for sulphur reduction in coal-fired generating plants was examined briefly and identified as a topic for further study.

The Non-Renewable Resources Sub-committee presented a submission to the ECA Panel on Recycling in Alberta entitled "The Need for Effective Promotion of the Recycling of Lubricating Oils." This grew out of concern over the Sub-committee's perception of public ignorance of and less than acceptable use of the Oil Drop program in Alberta. In the Sub-committee's opinion, constant promotion and financial incentives would benefit the program.

A resolution entitled "Utilization of Natural Gas as a Byproduct of Water Well Drilling" was developed and presented to the 1986 Annual Joint Meeting for consideration. Natural gas discovered accidentally in shallow drilling for water is not being used as effectively as it could be. The Sub-committee felt that the clear definition of an approval mechanism through an appropriate government department would stimulate the use of this valuable resource.

It is a privilege to belong to and to be able to serve on PAC. It is an honor to be associated with people who exhibit such great dedication to the cause of the environment. I wish to thank the ECA in general and all the members of this Sub-committee for their support and hard work. The members of this Sub-committee have fulfilled the general objective of being able through research, thought, and debate to be in a position to provide informed input into the conservation strategy document. As reward for your support of me in my role as chairperson, I can only offer you this thought: the conservation strategy document that you are contributing your energies toward will become recognized by future generations as another important step in the maturity process of human beings. It may even be recognized as one of the important contributions to the survival of all the Earth.

Dr. W. (Bill) Buchta
Chairperson, Non-Renewable Resources Sub-committee

Members of the Energy Sub-committee

Mrs. A. Parkinson, Co-Chairperson – Community Planning Association of Alberta
Mrs. S. Abercrombie * – Unaffiliated
Mr. G. Cameron * – Edmonton Chamber of Commerce
Mr. D.A. Clarke – SAIT
Mrs. M. Goodwin – Alberta Women's Institute
Mr. R.G. Kuhn – Save Tomorrow Oppose Pollution (STOP)
Prof. H. Madill – University of Alberta
Mrs. E. Martin * – Outdoors Unlittered
Mr. J. McLaughlin * – Alberta Association, Canadian Institute of Planners
Mrs. B. Paschen – Unaffiliated
Dr. J.E. Rapson – Solar Energy Society (Calgary Chapter)
Dr. W.A. Ross – University of Calgary
Mr. J.E. Staples – Association of Professional Engineers, Geologists and Geophysicists of Alberta
Mr. B. Staszenski * – Save Tomorrow Oppose Pollution
Mr. S.E. Stephansson – Alberta Oil Sands Industry Environmental Association
Mr. N. White – Unaffiliated

* No longer on Sub-committee

Ms. J. Hodgson and Dr. R.G. Gehrke joined the Energy and Non-Renewable Resources Sub-committee after their amalgamation in September, 1986.

Members of the Non-Renewable Resources Sub-committee

Dr. W. Buchta, Chairperson – NAIT
Mr. D. Broughton – Unaffiliated
Mr. G. Cameron * – Edmonton Chamber of Commerce
Mr. A.C. Dunkley * – Unaffiliated
Mrs. H. Heacock – Calgary Local Council of Women
Mr. J. Hirsch – City of Medicine Hat
Mrs. E.S. Hunter – Consumers Association of Canada
Mr. R. Jensen * – Alberta Irrigation Projects Association
Mr. A. Kennedy – Coal Association of Canada
Dr. A. Lamb – Alberta Chamber of Commerce
Mrs. S. Nelson Pier * – Calgary Local Council of Women
Mr. G.F. Paschen – Archaeological Society of Alberta
Mr. B. Peel – Electric Utility Planning Council
Mr. J. Prostebby * – Electric Utility Planning Council
Mrs. M. Stephenson – Alberta School Trustees Association
Mr. G. Stewart – Unaffiliated
Mr. A. Willier * – Native Outreach

* No longer on Sub-committee

Ms. J. Hodgson and Dr. R.G. Gehrke joined the Energy and Non-Renewable Resources Sub-committee after their amalgamation in September, 1986.

4.3.2.2 Environment Protection Sub-committee

...preservation of native species and natural environments for their intrinsic values, as well as the conservation of these resources for outdoor recreation and tourism.

Report from the Chairperson – Mrs. Dorothy Broadbent

Wetlands Habitat

Wetlands habitat issues have occupied a large proportion of this Sub-committee's time during 1986. All our past wetlands concerns have been compiled by Robin Robinson into a *Wetlands Bibliography*, which will be a useful reference document for future use.

Kimiwan Lake

This has been a recurring item on our monthly agendas. I am pleased to report that we are continuing to make progress with this project. Alberta Environment, Water Resources Management Division have implemented improvements to the supply canal and outlet control structures. These measures have augmented the water supply to the lake. An integrated management plan is being prepared for the area, and Public Lands Division is pursuing a natural area designation on the bed and shore of the lake. We have maintained a close liaison with the public group that originally approached us for assistance. Our letters to the Minister of Forestry and the Department of the Environment have resulted in positive action being taken. We were especially pleased to receive support from the present Minister of the Environment.

North American Waterfowl Management Plan

Our concern over the vast loss of wetlands due to a variety of human activities prompted us to invite a

representative from the Department of Energy and Natural Resources to attend one of our meetings to explain this recently introduced plan. The Sub-committee members were most supportive of the plan, which promises to provide a partial solution to the problems associated with diminishing wetlands habitat in this province.

The Ward Ranch

We consider the purchase of the Ward Ranch by this province to be a positive step forward. It is composed of a variety of types of habitat suitable for a broad range of native species. We have informed the Minister of Forestry and the Minister of Energy and Natural Resources of our support for this purchase. This is a major effort of its kind, a first for Alberta, and an indication of what can be achieved through co-operative efforts by government and non-government agencies, including Fish and Wildlife, Ducks Unlimited, Habitat Canada, and the Fish and Game Association.

Stormwater Lakes

We investigated stormwater lakes as a possible solution to the lack of urban wetlands habitat. However, we have not yet pursued this topic because, according to the City of Edmonton Recreation Department, stormwater lakes are not suitable for habitat designs. However, parks in Lloydminster, Red Deer, and Lethbridge where habitat is a strong consideration indicate the topic is worth follow-up.

Big Lake

This committee is actively participating in the planning for Big Lake, which is situated in a rural setting between Edmonton and St. Albert. A senior planner with the Edmonton Metropolitan Planning Commission attended one of our meetings to explain the lake's unique recreational potential and the need for developing a management plan for its shorelands. Members of this committee spent a day visiting the lake and viewing the excellent aquatic habitat it provides, assisted by the members of Ducks Unlimited who provided an air boat to help us with our survey. Eva Butler has attended public information meetings and delivered a presentation on behalf of the committee.

Buck for Wildlife

Horst Fauser is keenly interested in this program, and is keeping members informed of its progress. We are very interested in wetlands habitat projects and benefits to non-game species. However, we believe the success of this program depends upon co-operation between various government departments, including especially the Department of Agriculture.

Non-Game Species Management Program

A representative from the Fish and Wildlife Division, Department of Energy and Natural Resources attended one of our meetings and explained the history, goals, and objectives of this long-overdue program, which we support.

Integrated Management Plans

Robyn Usher, Horst Fauser, and Dorothy Broadbent reviewed integrated management plans in the south and central regions of the Eastern Slopes.

Provincial Parks Issues

Draft Policy Statement, Department of Recreation and Parks

Guy Swinnerton delivered a submission on behalf of this Sub-committee at the Edmonton forum. Our main concerns were:

1) A stronger commitment to the promotion of a conservation ethic is needed.

2) There is a need for a classification system within provincial parks.

3) There is a lack of priority given to land acquisition and park designation.

Kananaskis Highway 40

We have been assured by the Managing Director of Kananaskis Country that the Province does not plan to open Highway 40 south of the Kananaskis Trail intersection during the Winter Olympic Games.

Spring Grizzly Bear Hunt

We have informed the Minister of Forestry, Lands and Wildlife that we oppose this hunt. It is not based on adequate research and there appears to be little justification for implementing this measure at the present time. We have further recommended to the federal and provincial Ministers concerned that sound management objectives be developed for the grizzly bear population in Alberta, based upon reliable scientific research, and involving inter-government, inter-agency co-operation.

Mount Allan

The effects of the Olympic security management on the Mount Allan bighorn sheep herd is of growing concern to our members. The Minister of Forestry, Lands and Wildlife has informed us that the study of the herd is still progressing and we await its outcome.

South Castle

This committee supports the Provincial Parks Division's recommendations that a wildland provincial park be established in the South Castle area. The Minister of Recreation and Parks, the Hon. Norm Weiss, has confirmed his department's ongoing interest in this area.

National Parks Issues

CP Rail Rogers Pass Reclamation Project

Our concerns regarding the use of non-native species in the reclamation project were conveyed to the Minister of the Environment.

Waterslide Adjacent to Waterton National Park

We were unsuccessful in opposing the proposal to construct a waterslide close to the entrance to Waterton National Park. Bette Beswick has represented the Sub-committee on this issue and she continues to monitor developments.

In Conclusion

The year 1986 has been a very productive year and I have enjoyed working with the active members of this Sub-committee. Their enthusiasm and expertise have helped me enormously and I am grateful to them for their assistance and support. I am also grateful for the help I have received from the efficient and reliable ECA staff.

Horst Fauser and Michael Muc are taking over as Chairperson and Vice-Chairperson respectively for the coming year. I look forward to working with them on future issues.

Retention of habitat and wetlands concerns will again occupy a large proportion of our time. We will be closely watching developments in Kananaskis with regard to the Winter Olympic Games. National Parks will take up more time during the coming year, and we look forward to the completion and implementation of the Department of Recreation and Parks Policy. We support the views expressed at the Federal, Provincial, and Territorial Parks Ministers Conference in regard to the importance of protecting Canada's natural heritage and we intend to work towards improving the co-operative efforts of all the concerned agencies.

Mrs. Dorothy Broadbent
Chairperson, Environment Protection
Sub-committee

Members of the Environment Protection Sub-committee

Mrs. D. Broadbent, Chairperson – Unaffiliated
Mrs. L. Allison – Unaffiliated
Mrs. M. Bailey * – Southern Alberta Environmental Group
Ms. B. Beswick – National/Provincial Parks Association of Canada (Banff/Calgary Chapter)
Mr. C. Blackburn, Jr. – Foothills Protective Association
Ms. E. Butler – Edmonton Local Council of Women
Dr. R. Cairns * – Alberta Institute of Agrologists
Mr. B. Calverley + – Ducks Unlimited Canada
Mr. C. Dunkley – Unaffiliated
Mr. G. Fabris – Red Deer College
Mr. H. Fauser – Alberta Fish and Game Association
Mrs. L. Feltham – Health Unit Association of Alberta
Dr. R. Gehrke * – Alberta Chiropractic Association
Mr. R. Goodwin * – Southern Alberta Environmental Group
Dr. J. Harter – University of Lethbridge
Mr. M. Henderson – University of Alberta
Mr. A. James * – Calgary Chamber of Commerce
Mr. E. Jarvis * – Western Stock Growers' Association
Mrs. P. Kariel * – Sierra Club of Alberta
Mrs. J. Krabbe * – Citizens for Public Justice
Mr. D. MacIsaac + – Canadian Society of Environmental Biologists and Wildlife Society of Canada
Mr. R.P. McKenzie * – Alberta Beekeepers' Association
Ms. L. Miller – Alberta Motion Picture Industries Association
Dr. M. Muc – City of Camrose
Mrs. M. Newton – Women of Unifarm
Mr. R. Richardson – Unaffiliated
Mrs. R. Robinson – YMCA
Mrs. K. Russell * – Women of Unifarm
Dr. R. Scace – Unaffiliated
Mr. P. Seymour * – University of Alberta
Mr. S. Shwetz – Alberta Association of Municipal Districts and Counties
Mr. G.R. Stewart – Ducks Unlimited Canada
Mr. G. Rollie Stewart – Southern Alberta Environmental Group
Dr. G. Swinnerton – National/Provincial Parks Association of Canada (Edmonton Chapter)
Ms. R. Usher – Canadian Society of Environmental Biologists and Wildlife Society of Canada
Mr. H. Zenger – Sierra Club of Alberta

* No longer on Sub-committee
+ Attended Sub-committee as alternate

4.3.2.3 Pollution Sub-committee

...the impact of human activities on the quality of air, water and soil and the associated health effects on plants, animals and man.

Report from the Chairperson – Ms. Joanne Hedenstrom

During 1986, the Pollution Sub-committee had a very full agenda for each meeting. The three major areas of concern for 1986 were: pesticides and toxic wastes, water quality policy, and sour gas and acid deposition.

Pesticides and Toxic Wastes

In January 1986, the Pollution Sub-committee sent a representative to the Pesticides and Toxic Wastes Conference held in Banff, sponsored by Environment Canada. In addition, the Sub-committee has had several updates during the year on the construction progress of Alberta's new hazardous waste facilities, and is informing itself about pesticide spraying in Alberta's forests.

In March of 1986, the Pollution Sub-committee lobbied the Minister and other officials of the Department of Agriculture to ensure that funds set aside for studies into the effects of pesticide spraying in 1985 would be carried through into the 1986 budget year. The studies went ahead and in September, the Sub-committee heard preliminary reports from scientists who conducted the research. The study areas were the effects of pesticide spraying on farm applicators, song birds, game birds, and small mammals.

Water Quality Policy

As a result of a water quality workshop held by the Pollution Sub-committee in 1985, the group is working on an action plan for changes in Alberta's water quality policy. A review of the water quality policies of other provinces is being conducted.

Sour Gas and Acid Deposition Concerns

The progress of the Acid Deposition Research

Program, especially the Southern Alberta Medical Diagnostic Review, was followed closely during the year. In addition, the Pollution Sub-committee is monitoring the creation of guidelines for the reclamation of sour gas plant sites, and is in the process of developing recommendations on the ERCB's Sulphur Recovery Task Force Report. In May, the Sub-committee attended an Acid-Forming Emissions Workshop in Calgary.

As well as the above major areas of concern, the Pollution Sub-committee has continued to work on such specific pollution matters as the water quality of the Smoky and Wapiti Rivers, the proposed establishment of a pentachlorophenol wood preservative plant in Alberta, and on other areas of advocacy such as the recycling of sewage effluent, the promotion of research into biological insect control, and the establishment of guidelines for indoor air pollution.

Ms. Joanne Hedenstrom
Chairperson, Pollution Sub-committee

Members of the Pollution Sub-committee

Ms. J. Hedenstrom, Chairperson – Unaffiliated
Mr. B. Alleyne – Alberta Public Health Association
Mr. M. Andresen – Fort Saskatchewan Regional Industrial Association
Mrs. G. Bako – Alberta Cancer Board
Mr. E.R. Brushett * – Energy Resources Conservation Board
Mr. N. Carlson – City of Wetaskiwin
Dr. M.H. Chaudhry – Lakeland College, Vermilion Campus
Dr. K. Cummins – Mount Royal College
Mr. J. Dilay + – Energy Resources Conservation Board
Mr. G. Ferguson – Cascade Society of Mount Royal College
Dr. R.J. Fessenden – Alberta Research Council
Mr. T. Fletcher – Fort Saskatchewan Regional Industrial Association
Mr. D.B. Fraser – City of St. Albert
Dr. C. Hankins * – Alberta Medical Association
Dr. M. Hussain * – Weed Control Research Society of Alberta
Mr. W. Irwin – Canadian Institute of Public Health Inspectors (Alberta Branch)
Dr. M. Kostuch – Unaffiliated
Mrs. D.J. Lewoniuk – Alberta Lung Association
Mr. H. Lillo – Energy Resources Conservation Board
Mr. R. Lutz * – Fort Saskatchewan Regional Industrial Association
Mr. I.S. Macdonald – Strathcona Industrial Association
Dr. M.J. MacQuarrie – Alberta Medical Association
Mr. G. Merrick – Alberta Fish and Game Association
Mr. A. Metcalfe – Canadian Manufacturers' Association
Mrs. C. Mutch + – Medicine Hat College
Dr. R. Mutch – Medicine Hat College
Dr. P. Ramalingam – Canadian Union College
Mr. R. Romanetz – City of Drumheller
Mrs. J. Roschlaub – Alberta Pharmaceutical Association
Mr. W.K. Ross – Unaffiliated
Mrs. L. Scraba * – Unaffiliated
Mr. J.A. Shemanchuk * – Entomological Society of Alberta
Mr. A. Theobald – Alberta Federation of Labour
Mr. R. Thirnbeck + – Mount Royal College
Mr. D.R. Thomas – Law Society of Alberta
Dr. L. Wojtiw – Canadian Meteorological and Oceanographic Society

* No longer on Sub-committee
+ Attended Sub-committee as alternate

4.3.2.4 Renewable Resources Sub-committee

...sustainability of forests, water and wildlife resources.

Report from the Past Chairperson – Dr. Paul Woodard

The following is a summary of the activities of the Renewable Resources Sub-committee for the period 1 January to 30 June 1986.

Our monthly agendas centered around themes related to the provincial conservation strategy:

January – "Impact on wildlife habitat by irrigation system rehabilitation;" speakers: Mr. Don Alberts, Chairperson, Eastern Irrigation District; Mr. Lorne Fitch, Fish and Wildlife.

February – "Agricultural Issues – Irrigation system rehabilitation;" speakers: Dr. Art Olson, Alberta Agriculture; Mr. Brian Colgan, Alberta Agriculture.

March – "The value of wildlife;" speaker: Dr. William Phillips, University of Alberta.

April and May – Guest speaker cancelled.

June – The Blackfoot Recreation Area; a field trip to look at multiple use.

A number of issues were discussed on a recurring basis throughout this period. They were:

1) the provincial conservation strategy
2) public access to Crown land
3) sale of public lands
4) roadside spraying
5) commercial fishing
6) herbicides in the forest.

Yet, except for roadside spraying, all other issues remain unresolved and we continue our efforts with them.

Significant accomplishments include:

An in-depth study and policy paper on roadside spraying for the control of Scentless Chamomile was produced by Mr. Brian Meller and Mrs. Elsie Friesen.

A review of engineering, enforcement, and education programs instituted by Alberta Agriculture in response to this Sub-committee's 1982 resolution. This review was accomplished by Mr. Joe Shemanchuk and Mrs. Shirley Henderson.

Identification and adoption of terms of reference for the Renewable Resources Sub-committee with the assistance of Mr. Archie Landals.

In closing, it has been an extremely interesting and challenging half year for me as chairperson of this Sub-committee. I gratefully acknowledge the effort of the members of this Sub-committee and the able assistance of Randy, Archie, Pam, Ken, and all ECA permanent staff members.

Dr. Paul Woodard
Past Chairperson, Renewable Resources Sub-committee

Report from the Chairperson – Mr. Brian Meller

On 19 September, Brian Meller was installed as chairperson of the Renewable Resources Sub-committee. Dr. Paul Woodard moved to the Science Advisory Committee to work on forestry-related studies, particularly with respect to the use of forest herbicides and spraying programs. At this meeting, Mr. Don Fregren, Director of the Forest Land Use Branch, and Ms. Susan Calp, Head of Integrated Resource Planning of the Branch, made a presentation on economical evaluation in forest land use management. Discussion of this topic at the subsequent October 21 meeting, chaired by Dr. Joan Snyder, resulted in the identification of forest management problems as one of the topics the Sub-committee will focus upon in 1987. Other topics of focus will include the game-ranching issue which has been ongoing as a topic throughout 1986, as well as integrated resource planning. Integrated resource planning will be approached from a dual perspective: to determine the level to which the government engages in it, and to advocate increasing adoption of this management approach. The provincial conservation strategy will continue to be a major thrust of the Sub-committee in 1987, with several members actively involved in its continued formulation and development.

As the Sub-committee embarks upon a new year together, I would like to thank the members for their display of confidence and support in my ability to chair their activities, and I would especially like to extend my appreciation to Randy Pretty and Archie Landals for guiding me through the first few months and keeping the group on track. I will continue to solicit such support from all those associated with the Sub-committee.

Mr. Brian Meller
Chairperson, Renewable Resources Sub-committee

Members of the Renewable Resources Sub-committee

Mr. B. Meller, Chairperson – Lethbridge Community College

Mr. D. Appleby – Cold Lake Community Advisory Committee
Dr. J.S. Campbell * – University of Lethbridge
Mr. J. Eisenhauer * – Alberta Wilderness Association
Dr. D.K. Elton – Canada West Foundation
Mr. C. Fawcett – United Farmers of Alberta Co-operative Limited
Mrs. E. Friesen – Unifarm
Mr. H. Gardner – Federation of Alberta Naturalists
Mr. T. Garner – Fairview College
Dr. A.F. Gerrow – Alberta Veterinary Medical Association
Mr. S. Henderson – Alberta Association of Registered Nurses
Mr. R.A. Hill – Olds College
Mr. R. Jensen * – Alberta Irrigation Projects Association
Mr. A. Kolk * – Christian Farmers Federation of Alberta
Mr. W. Koning * – Citizens for Public Justice
Mr. E. Kure – Unaffiliated
Mr. S. Linington – Northwestern Fishing Co-op
Mr. B. MacDonald – Grande Prairie Chamber of Commerce
Ms. J. McLean-Hayden – Alberta Wilderness Association
Mr. D. Mallon – Edmonton Chamber of Commerce
Mr. H.R. Patching * – Alberta Wheat Pool
Ms. M. Posey – Canadian Nature Federation
Mr. G. Ribeiro – Canadian Water Resources Association (Alberta Chapter)
Mr. A. Rytz – Alberta Forest Products Association
Dr. J. Snyder – Grande Prairie Regional College
Mr. G. Sykes – Canadian Water Resources Association (Alberta Chapter)
Mr. R. Whistance-Smith – Unaffiliated
Mr. A. Wierenga * – Christian Farmers Federation
Mr. T. Williamson – Canadian Institute of Forestry
Mr. S. Wiskel – Western Barley Growers' Association
Dr. P. Woodard * – Canadian Institute of Forestry
Mr. J. Wooders – Alberta Trappers' Central Association

* No longer on Sub-committee

4.3.2.5 Rural Environment Sub-committee

...sustainability of the rural environment for agriculture, residential and recreation use and the wildlife it supports.

Report from the Chairperson – Dr. Sheri Dalton

The Rural Environment Sub-committee met for the first time on September 2, 1986, welcoming transfer members from several other Sub-committees and one new member of PAC. We have since had two additional meetings during which we identified soil degradation as our topic of immediate concern. We have planned our first few meetings of 1987 around this topic and look forward to our first full year as a Sub-committee.

Dr. Sheri Dalton
Chairperson, Rural Environment Sub-committee

Members of the Rural Environment Sub-committee

Dr. S. Dalton, Chairperson – Concordia College
Mrs. S. Abercrombie – Unaffiliated
Mr. R. Hill – Olds College
Mr. E. Jarvis – Western Stock Growers' Association
Mr. R. Jensen – Alberta Irrigation Projects Association
Mr. A. Kolk – Christian Farmers Federation of Alberta
Mrs. S. Nelson Pier – Calgary Local Council of Women
Mr. H. Patching – Alberta Wheat Pool
Mr. D. Peters + – Olds College
Mr. J. Shemanchuk – Entomological Society of Alberta
Mr. R. Thirnbeck – Mount Royal College
Ms. M. Turnell – Academic Women's Association

+ Attended Sub-committee as alternate

This new Sub-committee was established in September, 1986.

4.3.2.6 Urban Environment Sub-committee

...maintenance and enhancement of urban infrastructure, systems and institutions so as to minimize environmental impacts and improve the livability of our cities.

Report from the Chairperson – Mr. W.A. (Bill) Flook

During the current year, Dr. Don Kvill transferred his membership to the Science Advisory Committee and was replaced by Dr. Robert Holmberg, whom we welcome to our committee. Don was a consistently active and well-respected member and his pleasant companionship, as much as his wisdom, will be missed.

We also wish to welcome new members Alderman R. Davidson of Airdrie, Alderman Reg Summers-Gill and his alternate Mr. W. Roma of the City of Lloydminster, Mr. Bill Wyness of the Society for the Protection of Architectural Resources in Edmonton, Mr. Ernie Park of the City of Calgary's Planning Department, and Mr. Oli Maraschak of Alberta's Department of Municipal Affairs. All of these gentlemen have expressed and are demonstrating particular interest in the urban sector of the conservation strategy project and their efforts are much appreciated.

With these additions our membership, not including alternates, stands at a healthy 27, up from 22 last year.

Again the full allotment of nine meetings was held, one of which included a field trip to one of Calgary's solid waste disposal facilities and a meeting with City Engineer H. Quintilio and Terry Montgomery of their Sanitation Division. It is hoped that as a result of discussions with these officials, a more direct expression of support for recycling of used materials in Calgary can be obtained from this city's officials.

The average attendance at meetings remained at the previous level of 50 percent.

Throughout the year, the Sub-committee's interest in alternative methods for managing used materials continued. This was supported by the continuing and very vocal resistance of Edmonton residents to the proposed establishment of new landfill sites in northeast and southeast Edmonton.

Following the unanimous approval of PAC members at last year's annual meeting for this Sub-committee's resolution advocating separation at source for household wastes, the support of all affected municipal agencies was sought for its promotion. From a number of these, including the City of Edmonton and the Red Deer Regional Planning Commission, written expression of such support was readily forthcoming. Others, notably Calgary, were either much more restrained or totally silent, and efforts continued throughout the year, with mixed success, to gain more widespread support.

Attempts were made to give the concept added impetus through press interviews, appearances at local group gatherings, meetings with interested city councillors, and one major television appearance by the Sub-committee's chairperson.

Towards the end of the year, the City of Edmonton undertook a trial of "separation at source" in selected Edmonton communities. Reports are that participation is high and operations are proceeding satisfactorily. I think that this Sub-committee can be excused for assuming that this is at least partly due to our activities and we look forward to a fuller and more detailed report on its progress from the project manager early in the new year. It is hoped that the impetus gained by this experiment can be carried forward into the future and encouraged to expand without interruption.

The Sub-committee's enthusiasm for the recovery and reuse of used materials was further enhanced by the Government's decision to hold Environment Council public hearings on recycling early this year. In response to this, I am proud to report that this Sub-committee was responsible for a total of four briefs to the public hearings. One of these, on behalf of the Sub-committee as a whole, was very ably drafted by Don Kvill and presented by the chairperson. The others were personal briefs prepared and presented by Jean Sloan, Kenn Blom, and the chairperson.

During the year, the development of an urban sector for the Alberta Conservation Strategy also claimed a lot of attention from members of the Sub-committee. The chairperson continued to act as the Sub-committee's representative on the Steering Committee and attended its meetings, as well as a number of smaller working meetings aimed at formulating the Urban Statement.

To our members such as Keith Driver and Joan Lewin, who have already made preliminary written contributions, I offer our compliments. To Jean Sloan, my vice-chairperson who so ably filled in

when I was absent, and above all to Kim Sanderson and Mike Kelly for their untiring help and unwavering support, I wish to offer my Sub-committee's sincere thanks.

In closing, may I once more express our indebtedness to the Environment Council for making our activities possible and to Alistair Crerar and his staff for their help and guidance in developing and promoting our concerns. I could not end, however, without a special word of thanks to our untiring secretary, Randy Pretty, and our counsellor, Archie Landals, for their invaluable help, not only at our meetings, but whenever called upon between meetings.

Mr. W.A. (Bill) Flook
Chairperson, Urban Environment Sub-committee

Members of the Urban Environment Sub-committee

Mr. W.A. Flook, Chairperson – Unaffiliated
Mrs. P. Campbell + – University Womens' Club of Edmonton (Canadian Federation)
Mr. K. Carson – Alberta Association of Landscape Architects
Dr. S. Dalton * – Concordia College
Mr. R. Davidson – City of Airdrie
Mr. K. Driver – Unaffiliated
Mr. J.C. Finlay – Council of Alberta Rural Ratepayers' Association
Mr. M. Fitzpatrick – City of Leduc
Mr. A.M. Holland – Alberta Association of Architects
Dr. R. Holmberg – Athabasca University
Dr. D.E. King – Urban Development Institute of Alberta
Dr. D. Kvill * – Athabasca University
Ms. J. Lewin – City of Calgary
Mrs. M. Lutz – Consumers' Association of Canada
Ms. L. Miller * – Alberta Motion Picture Industries Association
Dr. K. Pennifold – Unaffiliated
Alderman D. Petroski – City of Fort Saskatchewan
Mr. C. Pickard * – Society for the Preservation of Architectural Resources in Edmonton (SPARE)
Mr. L. Pimm – City of Red Deer
Mr. S. Pragnell – Alberta Association, Canadian Institute of Planners
Mr. E. Radbourne – City of Grande Prairie
Alderman C. Reid – Alberta Urban Municipalities Association
Mrs. P. Reschenthaler – University Womens' Club of Edmonton (Canadian Federation)
Mr. P. Rudiak – Keyano College
Mrs. J. Sloan – Lloydminster Chamber of Commerce
Alderman R. Summers-Gill – City of Lloydminster
Mrs. P. Wight – City of Edmonton
Dr. C. Wood – Unaffiliated
Mrs. R. Wood + – Consumers Association of Canada
Mr. B. Wyness – SPARE

* No longer on Sub-committee
+ Attended Sub-committee as alternate

4.3.3 ENVIRONMENTAL EDUCATION ADVISORY COMMITTEE

...to advise the Council and the Government on matters concerning environmental education, to comment on environmental programs both within and outside of the formal educational systems, and to assist in the formulation, development and implementation of such programs wherever possible.

Report from the Chairperson – Mr. Dan Stoker

The EEAC remained reasonably active during 1986, holding eight regular meetings and one regional sub-committee meeting.

The focus in 1986 has been to explore an approach to increasing the efficiency and effectiveness of EEAC involvement by its volunteer membership. With this in mind, two operational priorities were established. The first need was to insure a full and active membership. A membership chairperson was elected with this objective in mind. The second priority was to establish a sub-committee system to involve all members in specific tasks. Four sub-committees were struck to take on the tasks identified as objectives for 1986. These two operational priorities have been maintained. Although it is hoped that the committee might already be showing some improved effectiveness, the true test will be in 1987 when some of this year's efforts may see completion.

What follows is a brief review of the meetings that

transpired this year, noting some of the topics covered:

January – Fifteen topics were identified in a planning session. Four topics were priorized as sub-committee themes: Alberta's environmental issues, review of existing government environmental education programs, identification of projects in environmental education for students, and the Alberta Conservation Strategy.

February – Membership was reviewed and new appointments made. The draft policy statement for Department of Recreation and Parks was reviewed. The Water Literacy Project (Alberta Environment/ SEEDS) was presented.

March – The EEAC history was reviewed, sub-committees were activated, letter was sent to the Minister of Education, and update was obtained on Environment Week.

April – A presentation was given on the recycling hearings by John Lilley and Brian Free. The sub-committees initiated their action plans.

May – The sub-committees met regionally and separately to work towards their objectives.

June – Correspondence with universities encouraging greater attention to environmental education was reviewed. Motions were passed to try to co-ordinate a joint venture to produce environmental education support materials on the topic of the conservation strategy. The organization Friends of Environmental Education Society of Alberta was identified as a co-operating group.

September – The sub-committees reported on their progress. Big Lake was identified as a unique environmental education resource.

October – The sub-committees again reported their progress. A brief on Big Lake was drafted and sent to the Edmonton Metropolitan Regional Planning Commission.

November – A draft report on the environmental education component to the conservation strategy was presented, and officers were elected.

I would like to express personal appreciation to the other members of the Committee who have supported our efforts through their regular attendance and keen involvement. Thanks go out as well to the ECA staff for all their support throughout 1986.

Mr. Dan Stoker
Chairperson, Environmental Education Advisory Committee

Members of the Environmental Education Advisory Committee

Mr. D. Stoker, Chairperson
Mr. R. Mrazek, Vice-Chairperson
Dr. J. Godfrey, Membership Chairperson
Mrs. M. Bailey
Dr. L. Bakshi
Ms. S. Banks *
Ms. J. Barwise
Mr. B. Batycky
Ms. E. Beaubien
Mr. R. Ebel *
Dr. L. Fenna *
Mrs. J. Finlay
Mrs. C. Gardner *
Dr. J. Guay
Mr. R. Ireland *
Mr. L. Johnson
Mr. J. Martin
Mr. D. Merrills
Mr. W. Pearce
Mr. J. Robertson *
Dr. W. Samiroden
Mr. D. Spalding
Mr. B. Wylie
Ms. W. Zelt

* No longer on EEAC

4.3.4 SCIENCE ADVISORY COMMITTEE

...to provide technical and scientific advice and assistance to the Council.

Report from the Chairperson – Dr. Peter Mahaffy

The Science Advisory Committee met as a committee of the whole on March 7, May 22, and October 1. Most of the Committee's work, however, was performed outside of formal meetings, by several sub-committees and by individuals within SAC and from its roster of consulting associates.

A list of the membership of SAC as of November 1, 1986 is attached to this report. We wish to thank retiring members Dr. Ralph Nursall and Mr. Gary Sykes for their service to the Committee and the ECA. We are pleased to welcome new members Dr. Don Kvill, Paul Woodard, Walter Moser, and Ms. Maggie Haag. We look forward to their contributions.

Over the last year, SAC has devoted some time to a discussion of its structure and the role that a scientific advisory committee should play, both within and outside of the ECA. This discussion has been open and constructive, and has led to some changes in the functioning of the Committee. Last year we decided to appoint an executive committee which would take primary responsibility for carrying out work between meetings. We also have taken advantage of other scientific expertise in the province by maintaining a roster of consulting associates, to whom materials can be sent for confidential review. We have continued these initiatives during 1986.

We now feel it essential to improve our effectiveness within the ECA, and, in particular, to improve our liaison with PAC sub-committees. In the past, our interaction with PAC sub-committees has been largely in a reactive capacity. SAC has reviewed resolutions and responded to other requests for information, review, and scientific advice. While SAC will continue to function primarily in a reactive role, we expect that the resources of SAC might best be used proactively to provide positive constructive help to PAC sub-committees at the beginning of their work on a particular topic. SAC has decided, therefore, to identify one member of its executive to each PAC sub-committee as a resource person. This SAC member will receive and review agendas and minutes of that sub-committee and provide advice and information where appropriate. In this way, in addition to reviewing the products of the sub-committee deliberations, SAC may be able to assist in identifying areas and resource persons to address concerns for sub-committees. Attached to this report is a list of SAC members who have been identified as resource persons for PAC sub-committees.

In addition to service to the ECA, PAC groups, and research staff, SAC has reiterated its invitation to the Minister of the Environment to take advantage of the expertise available on SAC for the confidential review of draft documents prepared by the Environment Department.

There have been a large number of issues before SAC this year, originating from SAC itself, PAC sub-committees, ECA research staff, and government departments. Items dealt with by SAC this year include:

1) A sub-committee of SAC continued to monitor water resource management issues in the province.

2) A second standing sub-committee on wildlife management and predator control was active throughout the year. Specific concerns of this sub-committee included caribou in the Grande Prairie area and the expanded grizzly hunt in South Kananaskis.

3) The scope of agencies providing grants for environmental research in Alberta was discussed. As a result, representatives from three such agencies made presentations to SAC on the nature of their agencies and the terms of reference for the administering of grants.

4) A review of several background documents prepared by the ECA research staff for the public hearings on recycling in Alberta was done. SAC also offered its services to the Recycling Panel to review the findings of the Panel.

5) Resolutions presented to the 1986 Annual Joint Meeting of the ECA were reviewed by

SAC as requested by the Resolutions Committee.

6) SAC nominated one of its members, Dr. Bob Rogers, to serve on the Hazardous Chemicals Advisory Committee, as a representative of the Environment Council of Alberta.

7) Comments were provided on the proposed Litter Control Act.

8) A review of a report put out by Environment Canada entitled *State of the Environment Report for Canada* was provided for the Hon. Tom McMillan, federal Environment Minister.

9) The Southwestern Alberta Medical Diagnostic Review (Spitzer Report) was discussed. Specific questions were raised with the author and clarification was received.

10) At the time of drafting this report, a review is being prepared of the guidelines for sulphur recovery at Alberta gas plants.

11) Also in progress is a review of *Draft Standards for Water Supply Facilities, Sewage Works and Storm Drainage Systems*, published by Alberta Environment.

12) Individuals within SAC have had some involvement in the development of a provincial conservation strategy. SAC has offered to provide assistance in reviewing background information and papers, and final sector reports.

New directions for SAC in 1987 might include involvement in initiatives being taken with regard to endangered plants in Alberta. SAC is also considering forming a working group on forestry in Alberta.

Finally, as chairperson of the Committee, I wish to thank the members of SAC and its consulting associates for their generous gifts of professional time. Their genuine concern both for the well-being of the environment and integrity in environmental advocacy is appreciated. I would also like to thank the ECA staff, especially Mr. Archie Landals and Ms. Randalin Pretty, for their assistance. The help of the ECA staff continues to make the work of this Committee possible.

Dr. Peter Mahaffy
Chairperson, Science Advisory Committee

Resource Persons for PAC Sub-committees

Dr. P. Mahaffy, Chairperson
Dr. D. Thompson, Energy and Non-Renewable Resources Sub-committee
Dr. T. Veeman, Environment Protection Sub-committee
Dr. R. Lane, Pollution Sub-committee
Dr. B. Fuller, Renewable Resources Sub-committee
Dr. S. Dalton, Rural Environment Sub-committee; Environmental Education Advisory Committee
Dr. D. Kvill, Urban Environment Sub-committee

Members of the Science Advisory Committee

Dr. P. Mahaffy, Chairperson – Department of Chemistry, Kings College
Dr. C.B. Beaty * – Department of Geography, University of Lethbridge
Dr. C.F. Bentley – Department of Soil Science, University of Alberta
Dr. H. Buckmaster – Department of Physics, University of Calgary
Dr. S. Dalton – Concordia College
Ms. L. Duncan * – Environmental Law Centre
Dr. W.A. Fuller – Department of Zoology, University of Alberta
Ms. M. Haag – Department of Zoology, University of Alberta
Dr. J. Hackler – Department of Sociology, University of Alberta
Ms. L. Horstman – Canadian Society of Environmental Biologists
Dr. D. Kvill – Athabasca University
Dr. R.K. Lane – Environment Canada
Dr. W. Moser – Department of Botany, University of Alberta
Dr. R. Nursall * – Department of Zoology, University of Alberta
Dr. R.P Pharis – Department of Biology, University of Calgary

Dr. W. Phillips – Department of Rural Economy, University of Alberta
Dr. B. Rogers – Concordia College
Mr. G. Sykes * – Canadian Water Resources Association (Alberta Chapter)
Dr. D. Thompson – Faculty of Environmental Design, University of Calgary
Dr. W.H. VandenBorn – Department of Plant Science, University of Alberta
Dr. T.S. Veeman – Department of Economics, University of Alberta
Dr. P. Woodard – Department of Forest Science, University of Alberta

* No longer on SAC

4.4 ALBERTA CONSERVATION STRATEGY

4.4.1 HISTORY

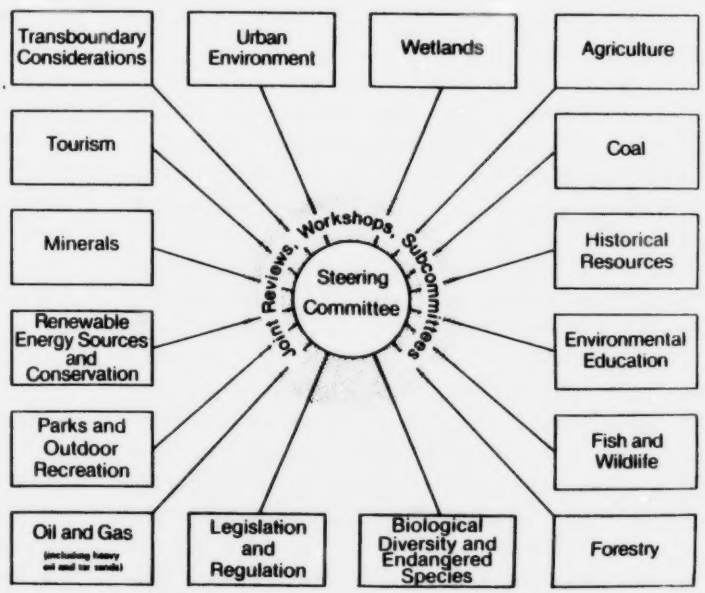
In late 1985, the Public Advisory Committee unanimously endorsed both the draft Prospectus for an Alberta Conservation Strategy and a Resolution requesting the government to direct the ECA to conduct public hearings on a draft Conservation Strategy for Alberta. This kicked off 1986 with a serious commitment by PAC to produce a draft NGO-sponsored strategy. During 1986, the Alberta Conservation Strategy project moved from a small in-house Public Advisory Committee initiative to a major effort involving all of the PAC Sub-committees, and many public interest groups and individuals outside of PAC. The strong commitment by PAC to seeing the project through began a new and more complex phase in the development of a draft strategy for Alberta, and occupied an ever-increasing allotment of PAC's resources in 1986.

4.4.2 THE PROCESS

Early in the year, the Steering Committee for the project was expanded to 14 to better represent the various sub-committees of PAC. The Steering Committee debated the relative merits of various approaches to developing a draft strategy, and decided in March that the breadth of the project necessitated wider participation. To achieve this wider involvement, and to develop the type of information needed to prepare a high-quality draft strategy, the project was temporarily subdivided into 16 sectors (see Figure 1).

To try to reach as many interested people as possible, the Steering Committee has taken other concrete steps. A logo was designed for identifying the Alberta Conservation Strategy. Letterhead and envelopes were produced using this logo in order to ensure that the project maintains an identity separate from PAC and the ECA. This separate identity, including the lack of a stylized "A" in Alberta, was deemed necessary to illustrate that there is no intent to exclude anyone or any group from full participation.

A large exhibit display was also prepared to help promote the Strategy project. The "Nomad" has



Organization of the Alberta Conservation Strategy Project

been used as a promotional device for the Conservation Strategy at several conferences and provides an excellent backdrop for publications.

Alberta Conservation Strategy Logo

An information kit was designed for people who are interested in the Conservation Strategy but not prepared to read the entire 78 page Prospectus. The kit contains several short articles about the project and the process. This format allows written material to be tailored to the interests of the intended audience. The information kit made its debut at the World Conservation Strategy conference in Ottawa in June (see Section 5.3). Representatives of the IUCN (the major sponsor of the WCS) complimented the design, and they intend to adapt the idea to many of the National Strategies for which they provide assistance.

Each of the 16 sectors is to produce a working paper. The primary focus for each sectoral paper is intended to be the interactions of that sector with other sectors. It is not the purpose of this project to produce reports that simply restate what is known about, for example, the oil and gas industry or the forest products industry. The goal is to produce a series of reports that discuss the interactions, overlaps, common interests, and conflicts between sectors. Since there are 16 sectors, the interactions are many, diverse, and complex. That is why the Steering Committee has tried to involve as many experienced and knowledgeable individuals from each sector as is practical in the writing of the papers.

Once the sectoral working papers are completed and reviewed within each sector and by volunteers with expertise in the subjects addressed, they will be circulated to other, interconnected sectors. The comments from the various sectors will be compiled and evaluated by the Steering Committee. After revisions, the working papers will then be used as a basis for workshops designed to address the commonalities as well as the differences and conflicts found among the 16 sectors. This is when the difficult job of integrating the sectors into a final draft strategy will begin.

The objective of the workshops is to reach consensus on the issues that overlap sectors where possible, and to define explicitly where and why consensus is not possible. In some cases remedies may be suggested for managing the remaining inevitable and legitimate conflicts. Finally, the material from the sectoral reports will be integrated into a workable draft Conservation Strategy. The sectoral reports would then be published as background reports to the draft Strategy.

The Public Advisory Committees to the ECA have requested the government to instruct the Council to conduct public hearings based on this draft strategy and the background documents. The public hearings would allow all those not involved in the lengthy and complex process of consensus building to judge the results and suggest improvements. After the public hearings, the hearings panel would submit to the government their version of an Alberta Conservation Strategy. If approved in whole or in part by the government, the implementation phase would begin: the development, continuation, or improvement of action programs (many of which already exist) that are in accord with the principles agreed upon in the ACS, by provincial, regional, and local governments, non-governmental organizations, and perhaps individuals.

In the fall, many of the PAC Sub-committees became more involved in Conservation Strategy activities. The Annual Joint Meeting of PAC and the ECA was once again directed toward the Conservation Strategy, in this case taking up the subject

of sustainable development. Workshops were held at the Annual Joint Meeting by the Sub-committees, and several developed agendas for the coming year with progress on the Alberta Conservation Strategy as priority number one. The coming year should see several workshop/seminars scheduled, with discussion papers about the Strategy emerging from these forums.

4.4.3 PHILOSOPHY BEHIND THE PROCESS

One of the primary objectives of the process for developing an ACS is to avoid any sense of "ownership" or exclusivity. The 16 sectors were selected partially because of the unique combination of characteristics that make up Alberta, partially because of the information requirements for a strategy, and partially because of the organizational structure of PAC. Some conservation strategies in other jurisdictions do not deal with non-renewable energy sources like gas, oil, and coal. This is not acceptable in an Alberta strategy because so much of our economy and our conservation efforts are based on these resources. There are in fact three sectors which deal with aspects of energy production, use, and conservation, in order to accommodate the many different factors and interest groups involved. We are concentrating on involving both developers and conservationists as early as possible in the planning of each sectoral report so that acceptance of the final product will be broadened. The process must continue to be as open and participatory as can be managed in so large and complex a project.

An Alberta Conservation Strategy, like those prepared elsewhere, is in fact an attempt to build a societal consensus around certain general principles, make an explicit commitment to follow these principles to the extent reasonably possible, evaluate the results which flow from doing so, and modify as necessary. There needs to be a document called a Conservation Strategy for purposes of consensus building, but a conservation strategy is by nature a process flowing from the societal consensus. In most cases, we already adhere to the ideas contained in the World Conservation Strategy, but we haven't explicitly tested the depth of that commitment or the extent to which we practice what we preach.

The development of a Conservation Strategy should be a positive, unifying process that enables even a society as self-consciously diverse as Alberta to recognize the commonalities we all share, and to face the fact that we are all together in the same shrinking boat. More importantly, the process should make it clear that we have already developed many positive responses, policies, and programs to deal with the problem of balancing economic development with conservation and the wise use of resources. And that we can continue to build upon and improve the many ways we reach this balance. Developing a provincial conservation strategy can become a societal commitment to our future. To borrow a phrase from the Prospectus, the process of developing an Alberta Conservation Strategy can confirm Albertans' commitment to "treat Alberta as if we plan to stay."

4.4.4 REPORT FROM THE CONSERVATION STRATEGY STEERING COMMITTEE

With a project such as the conservation strategy, it is often difficult to assess progress, but the Steering Committee believes we have come a long way this year. If numbers are any indication, a lot of people have heard about the plans for an Alberta Conservation Strategy; we have distributed some 2,300 copies of the 78-page *Prospectus* since its publication in March, plus 1,100 information kits. We have also sent items suitable for newsletter publication to a variety of provincial organizations as well as national and international groups, and we now have about 1,000 people on the ACS mailing list. The ECA continues to receive an average of one inquiry per day requesting more information.

The Steering Committee held eight meetings in 1986, many of them with invited guests from government and industry, to discuss the project and how we can better integrate our efforts. The first high point of the year occurred when the

Prospectus was published and released in March. The feedback has been quite favorable and the Steering Committee appreciated the review comments and input received from PAC members on the draft document.

We presented a written submission to the United Nations' Commission on Environment and Development which held public hearings in Ottawa in May (see Section 5.2.2). The *Prospectus* was the major part of this submission. In June, three members of the Steering Committee, with financial assistance from their constituent organizations, attended an international conference in Ottawa to assess global progress towards implementing regional and national strategies. More than 500 people from nearly 100 nations attended, and many good contacts were made with people from all over the world. There was a lot of interest in the approach Alberta is taking and it was apparent from this conference that Alberta is the Canadian leader in developing a provincial strategy.

In September, the Tenth Assembly of the Canadian Environmental Advisory Councils met in Edmonton, with many Steering Committee members participating. The theme was provincial conservation strategies, and this meeting gave us an opportunity to hear some new ideas and thoughts on the topic from knowledgeable people in other parts of the country. Some work is under way in other provinces, but the structure of the Environment Council and its Public Advisory Committees has clearly provided Alberta with an advantage. Much interest was expressed in the activities of PAC and the approach selected by the Steering Committee for developing an Alberta Conservation Strategy. In the end, delegates agreed to take information about Alberta's activities back to their own colleagues and Ministers, as well as to write in support of Alberta's activities to the federal Minister. Delegates also agreed to support provincial conservation strategies as an item for discussion at the upcoming meeting of the Canadian Council of Resource and Environment Ministers.

Steering committee members, in their roles as sector leaders, have been organizing their sectoral working groups, at varying speeds. Some sectors likely will have a first-draft working paper early in the new year, while others are still in the preliminary stages. The approaches being taken by the sectors differ, but a common review process will be the crucial step for all of them. We now have 16 sectors for which background working papers are required before writing a draft strategy, and we hope to commence work on a draft strategy in the late fall or winter of 1987.

Correspondence has been exchanged with provincial cabinet Ministers in every department of direct relevance to the conservation strategy. Although we do not yet have an appointed representative from each of these departments, most of the letters received from the Ministers have been openly supportive and positive. We have had very useful discussions with and encouragement from government personnel who have attended our meetings, and we plan to continue this type of dialogue in 1987.

Several of the PAC sub-committees have volunteered to make one or more of the sectors their major project for the 1986-87 year, and the Steering Committee appreciates this type of support and assistance. Throughout the project we have been experiencing tight financial constraints, and now our collective belt will need to be tightened even further. Although this restraint may mean the project will take longer to complete, we realize this expanded time frame also provides an opportunity for more people to become involved and for the consensus-building process to become firmly entrenched.

A number of individuals and organizations who are not associated with PAC have come forward to offer their assistance with this project, and the Steering Committee finds this very gratifying. It is an indication of the broad support and need for a conservation strategy, and we are convinced this awareness is growing. It seems the topic of conservation is currently quite popular; obviously the more people who are thinking about conservation and sustainable resource use, the more commitment and support there is likely to be for a

conservation strategy. It has been said, "there is no limit to what can be accomplished, as long as you don't mind who gets the credit," and with this philosophy, we welcome all comers.

Dr. Joan Snyder
Chairperson, Alberta Conservation Strategy
Steering Committee

Members of the Conservation Strategy Steering Committee

Dr. Joan Snyder, Chairperson – Renewable Resources Sub-committee
Mr. Elmer Kure, Vice-Chairperson – Renewable Resources Sub-committee
Mr. Brian Alleyne – Pollution Sub-committee
Mr. Bill Flook – Urban Environment Sub-committee
Dr. John Godfrey – Environmental Education Advisory Committee
Ms. Louise Horstman – Science Advisory Committee
Mrs. Betty Hunter – Energy and Non-Renewable Resources Sub-committee
Mrs. Maryhelen Posey – Renewable Resources Sub-Committee
Mr. Bob Richardson – Environment Protection Sub-committee
Mrs. Mary Stephenson – Energy and Non-Renewable Resources Sub-committee
Mr. Dan Stoker – Environmental Education Advisory Committee
Dr. Guy Swinnerton – Environment Protection Sub-committee
Ms. Robyn Usher – Environment Protection Sub-committee

4.5 ANNUAL JOINT MEETING

4.5.1 LOCATION AND ATTENDANCE

In keeping with fiscal restraint, the Annual Joint Meeting was again held in Edmonton. The meeting took place on December 4, 5, and 6 and was well attended, with over 100 members actively participating.

4.5.2 PROGRAM

The theme of the 1986 Annual Joint Meeting was sustainable development. This topic was selected to allow all members to actively contribute to the ongoing Alberta conservation strategy project.

4.5.3 CHIEF EXECUTIVE OFFICER'S REMARKS

I think I warned you in my welcoming remarks that I would return to a theme of doing better with less. You know this isn't anything new for the ECA. We have reduced our manpower, or person years, by over 25 percent over the last three years – down from 28 to 20 staff without, I would submit, much slippage in service levels. How have we done it? Largely through the introduction and use of computers to take on much of the work formerly handled manually.

Instead of research officers doing three-day library searches, we can access databases that contain entries from several hundred environmental and scientific journals and have 50 to 100,000 references codified by keyword. All of this is available in under 15 minutes.

For typing, we can originate, correct, and print copy directly without having to have it typed out and corrected laboriously. We now maintain our own mailing list, correct it ourselves, and print our own labels rather than sending material out for entry, correction, and printing. We do a much better job of correcting and updating our mailing list than any outside agency could and we will continue to improve on it. PAC minutes are now entered on the computer.

Our experiment with the Environmental Bulletin Board is, I think, an unqualified success. It is accessible to anyone with a computer and a modem, which is a growing crowd today, much beyond my modest expectations. Since we went online with the bulletin board on October 3, we have had 298 inquires and logged 85 and a half hours of computer time as of the end of November. This is

another audience and another way in which the environmental message is being spread.

Now, I am sure that each of you has your favorite story of the disastrous application of computers, and there are many. However, we have introduced computers slowly, carefully, and collectively. It has not been a top-down decision. In fact, I am probably the least-informed member of the Council on the use, application, and nature of computers. I have remained something of a skeptic, being somewhat suspicious of these newfangled things, doubting the claims that were made for their utility, but willing to be convinced – which I now am.

But, most particularly, we structured a computer advisory committee made up of all the staff people who were going to use computers, to advise on the number and type, the hardware and software that we should order. They were essentially given a budget to work within – not a large one by any means – and at the management level we went along with their advice almost 100 percent. It was a collegial decision, a collegial responsibility, and it worked.

After running a public consultation exercise for the last nine years, I am pleased to report to you that public consultation works. If you have hard decisions to make, involve those who will be affected in the decisions as much as possible.

Which brings me to the main theme of my talk: I don't need to tell you that the gravy train has screeched to a halt, that government revenues are down and the deficit up, and we all have to tighten our belts. This belt tightening, in the case of the Council, is both good news and bad news. The mandatory cutbacks in staff budget can be accommodated without having to eliminate an occupied position. That's the good news. However, the bad news is that we are required to cut back by 15 percent on the category of "travel and hosting." As you can appreciate, a large part of the ECA's expenditure comes under the category of "travel and hosting" – bringing PAC members in from all corners of the province is not cheap. It is, however, essential that, just because you come from Fort McMurray or Medicine Hat, it should not prevent you from making your views known. We already ask you to sacrifice the time it takes to get to and attend meetings; the least we can do is compensate you for your out-of-pocket expenses. But we have to cut back exactly those kinds of expenses by 15 percent. One obvious method is to cut back on the number of meetings, from 10 per year, including the Annual Joint Meeting, to nine. But there are a number of other alternatives that you could advise us on. We would like to get your views on which meeting can be dropped with the least disruption to the programs of individual Committees and Sub-committees. Can we improve the format of the Annual Joint Meeting to save ourselves some money, for example, a two-day meeting instead of three, or perhaps one and a half days? I know that Archie and Randy would like to hear from you. Our specific challenge here is how to do better with 15 percent less funding. I think I can count on you for ideas and suggestions that will help.

In addition to a 15 percent cutback in the next fiscal year (1987/88), we are also required to cut back by about 15 percent in the same category of travel and hosting in the current fiscal year, which runs out March 31, 1987. This doesn't provide many options. A large portion of the year has already passed. It was too late to revise the format of the Annual Joint Meeting. We will have to drop one meeting of each Sub-committee between now and the end of the fiscal year, that is, before April 1, 1987. Because of the short-term nature of this request, we have not been able to consult with you in the same manner that we will be able to for 1987/88, but what we can do, we will do. The suggestions from Committees and Sub-committees on which meeting can least disruptively be dispensed with will be welcome.

Finally, let me make the point to you that the advice of PAC will be required more in the future than it has been in the past. In the past the solution to a problem was to throw money at it and it went away. Today we have to solve problems, if not without provincial funds, certainly with the smallest commitment of provincial funds

possible. To solve problems we need ideas and alternatives, since the dollars aren't there. And ideas, alternatives, and advice is what PAC is all about. I don't believe, even when the funds were flowing strong, that we had a long shopping list of projects. Indeed, we were usually fairly skeptical about whether many provincial investments in the environment represented good value for money, or that they were the cheapest way to achieve a mutually agreed goal, or that development benefits were likely to exceed, by a sufficient margin, the environmental costs assumed. Those were arguments we were making when the money flowed and jingled. How much more persuasive should they appear today?

PAC has not been one of the big-spending lobby groups in the past. Can we come up with suggestions today that will protect the environment and enhance the conservation of natural resources without the expenditure of additional funds or with ways to use existing funds more effectively? For example, there is an Outdoor Observer plan to report those who break wildlife regulations. Is it possible to have Pollution Observers to alert the department to problems they observe? The Minister has already tapped this resource through his HELP ads with respect to the reporting of old industrial dump sites. Surely it is possible to take this sort of approach and improve the effectiveness of pollution control in this province without hiring more staff or spending additional funds.

Let me give another example: reclamation. It is certainly not PAC that insists on the reclamation of coal mines on Class 5 agricultural lands to a post-mining standard of Class 4 or 5 agricultural use. I am sure that PAC would be willing to endorse a post-mining standard of Class 1 or 2 wildlife habitat, if the essential protection of water quality in underground aquifers were assured.

Similarly, in the oil sands mining operations at Fort McMurray, the essential factor, from the environmental point of view, is the prevention of erosion of those friable sands. Whether the regrowth is conifer or willows and forbs is of little concern. The main objective should be the development of a root mat to prevent erosion.

In both these cases, substantial amounts could be saved if reclamation were targeted to appropriate local environmental objectives. This might very well result in higher standards and target objectives in parts of the Eastern Slopes where the land resource is precious and unique and in high demand. It perhaps is easier, administratively, to apply one standard to all conditions throughout the province. However, thinking smarter implies easing up, and saving money, on the things that aren't so important, so that you will have the funds available to do the essential things.

Now those are the challenges for PAC in these troubled times. We don't need you less, we need you more. PAC has been thinking smarter for years; it is just that a market for low-cost, or no-cost, advice on the protection of the environment has finally developed in Alberta. Let's put our minds to meeting this demand in the upcoming year — advice on the expenditures we don't need to make, how to do more with less, how to perform necessary tasks of environment conservation with fewer people and a smaller expenditure, or with funds diverted from areas of low priority to high.

The Minister, the Hon. Ken Kowalski, extended that kind of challenge to PAC at his meeting with the Co-ordinating Committee when he addressed improving the effectiveness of PAC. I am sure that he would have discussed that with all of you, if he had been able to meet with you today. Again, this is no new challenge to PAC. It began with the effectiveness workshop in October of 1984 and it has continued with the revision of the Roles Document and the realignment of the study groups into the new sub-committees, with amalgamation of Energy and Non-Renewable Resources and the establishment of a new Rural Environment Sub-committee.

But more than anything else, it has been the effort that PAC has been putting into the development of a Conservation Strategy for Alberta. If there was a valid criticism to be made of PAC in the past, it would be that it was too exclusively in the "react and cure" mode. Now don't get me wrong: there has been a need for a react and cure approach and we have made great strides and important progress through the use of that approach. Our water and

air are cleaner than they would have otherwise been. Hazardous wastes, instead of being stored in municipal landfills to percolate through and appear as complex effluents and leachates in the environment, are going to be treated and destroyed at Swan Hills. Those are triumphs.

React and cure vigilance is still essential to identify problems as they appear and cure them. But the whole of our attention should not be focussed on the react and cure mode, essential as it is, and often exciting and challenging as it is.

PAC should also be concerned with the "anticipate and prevent" approach. That, in essence, is what the Conservation Strategy should help us achieve. By thinking about what we want to do, about where our priorities truly lie, by distinguishing the important from the less important, PAC should be in a better position to provide suggestions and advice before the event, rather than insisting on cleaning up after the event has occurred.

This is not a suggestion, on my part, that PAC hold back on comments and criticisms on matters of environmental quality or the need for environmental conservation. Far from it. However, what you must do is (a) get your facts right and (b) if at all possible, suggest some positive solutions to the problem. In these times, a solution should not involve the expenditure of additional public monies, if there is going to be a hope of its adoption. Alternatives such as a reduction in one place and its reallocation elsewhere, or ways in which to involve or substitute local and volunteer initiatives, have a better chance of being acted on than suggestions for new programs or new expenditures.

The Conservation Strategy should help us in that regard. As Yogi Berra said, "If you don't know where you're going, you probably won't get there." By developing a clearer understanding of what we want to do through the Conservation Strategy process, PAC should be able to improve the quality of the advice, recommendations, and criticisms that it provides.

The dialogue with the Minister on improving the effectiveness of PAC, which should have continued here today, has been interrupted. It will continue with your Co-ordinating Committee in early February. It has been well begun. I am sure that it can continue successfully.

Thank you.

4.5.4 NEW OFFICERS

Ms. Maryhelen Posey was acclaimed chairperson of the Co-ordinating Committee for 1987. She succeeds Mr. Bob Richardson, who now assumes the duties of past chairperson. Ms. Jean Sloan was acclaimed vice-chairperson for the coming year. Among her duties will be heading the Annual Joint Meeting Planning Committee for 1987.

4.5.5 RESOLUTIONS

Five resolutions were presented to the plenary session of the Annual Joint Meeting. Four of these were ratified and will be forwarded to government. Following is the text of these resolutions:

RESOLUTION ONE

I. The South Castle River Valley

II. Be It Resolved:

THAT the Government of Alberta proceed with its original provincial plan to establish a wildland provincial park in the South Castle area.

III. Background:

In 1974, the Provincial Parks Division recognized the shortage of wildland recreation areas in southern Alberta and recommended that a provincial park be established in the headwaters of the Castle River, because of its scenery, natural history, and potential for supporting extensive recreational interests. The 1977 Eastern Slopes Policy singled out the Castle River headwaters as "particularly significant,"

recognizing the drainage for its important water-producing qualities and its very high potential for wildland recreation. The South Castle was originally part of Waterton Lakes National Park, which presently has no buffer zones on its Canadian borders. The area is important internationally, being part of the ecosystem protected by the Waterton-Glacier International Peace Park, which has been nominated by Canada and the U.S. as a World Heritage Site. U.S. authorities consider the South Castle drainage and Waterton Lakes National Park as part of the Northern Continental Divide Grizzly Bear Ecosystem, which is critical to the survival of grizzly bear in the lower 48 states. It is also an important habitat area for the U.S. wolf recovery program. The region contains rare types of vegetation, and lakes and streams comprise some of the most productive trout-producing waters in Alberta.

IV. References:

Landals, M. 1974. *Castle-Crowsnest: A Survey of Park Potential.* Parks Planning Branch, Alberta Department of Parks and Recreation.

Alberta Energy and Natural Resources. 1977. *A Policy for Resource Management of the Eastern Slopes.* Alberta Department of Energy and Natural Resources.

V. To Be Directed To:

The Premier
Minister of Recreation and Parks
Minister of Forestry, Lands and Wildlife
Minister of Tourism
Minister of the Environment

VI. Proposed by the Environment Protection Sub-committee

RESOLUTION TWO

I. Utilization of Natural Gas, as a Byproduct of Water Well Drilling

II. Be It Resolved:

THAT the Government of Alberta

1) support the concept of the utilization of natural gas as a by-product of water well drilling,
2) eliminate present procedural confusion by establishing a procedure through which natural gas production resulting from water well drilling could be utilized by farmers for their own agricultural purposes.

III. Background:

Informal surveys of people engaged in agriculture using natural gas derived from water well drilling as an energy source reveal little present activity, but a strong future potential, with the following benefits:

1) cost of water well drilling could be offset by the production of both water and natural gas

2) public safety could be increased by removing from the plumbing system this combustible component of the water

3) water quality could be improved by filtering out the natural gas

4) this non-renewable natural energy resource would be utilized rather than wasted

5) escape of the unutilized natural gas would not occur and as a result there would be reduction of one source of environmental pollution.

The Sub-committee has had many discussions with the Departments of Energy, Environment, and Agriculture and the Energy Resources Conservation Board on the issues related to natural gas resulting from water well drilling. As a result, the Sub-committee

understands the difficult time rural landowners have in working through the bureaucratic procedures necessary to legally utilize the gas as an energy source. Furthermore, the Sub-committee concludes that government departments involved should co-ordinate their work on the use of natural gas resulting from water well users and, in turn, provide standards of safety and proper resource management.

IV. To Be Directed To:

Minister of the Environment
Minister of Agriculture
Minister of Energy
Energy Resources Conservation Board

V. Proposed by the Energy and Non-Renewable Resources Sub-committee

RESOLUTION THREE

I. Water Development Projects

II. Be It Resolved:

THAT the Government of Alberta transfer responsibility for water development projects out of Alberta Environment.

III. Background:

Alberta Environment is currently responsible for both the protection and the development of water resources. This dual mandate results in a conflict of interest within the Department, which results in public distrust of the Department, weakened political accountability, and the lack of a guarantee of fairness in decision making.

There is a broad public perception that the Water Resources Management Services (of Alberta Environment) is a group of developers no longer free to assess the environmental impacts of a dam and promote the protection and enhancement of the environment.

Alternatives include establishing a Crown corporation to be responsible for proposing water projects, establishing a Water Resources Conservation Board to hear applications for water development projects, establishing Conservation Authorities to manage water and land in an integrated fashion, or transferring the responsibility for water development projects to the appropriate department.

Alberta Environment would then be free to evaluate the environmental impacts of water development projects.

IV. References:

Krabbe, J.R. 1985 *Alberta Environment: A Mandate to Protect and Develop.* Thesis. Calgary: University of Calgary.

V. To Be Directed To:

The Premier
Lieutenant Governor
All Cabinet Members

VI. Proposed by the Pollution Sub-committee

RESOLUTION FOUR

I. Indoor Air Quality

II. Be It Resolved:

THAT the Government of Alberta designate a department or a provincial agency to establish standards and provide facilities and services for monitoring indoor air pollutants in public and residential buildings and enforcing indoor air quality standards in public buildings.

III. Background:

In our modern society we spend an average of 70 to 90 percent or more of our time within contrived environments which isolate us from the natural environment.

It is increasingly apparent that elevated pollutant levels are common inside tightly constructed artificial structures (such as residences, recreational facilities, shopping malis, office buildings, factories, etc.). Our intimate involvement with indoor environment means that every new element we introduce into this closed system may have profound effects on those exposed for significant lengths of time.

Presently there is no agency to serve those members of the public who are concerned or perceive themselves to be affected by indoor air pollutants. Such an agency is necessary to receive, document, investigate, and evaluate public concerns and respond with information, education, monitoring, and control programs.

Recent experiences with two widely used elements of the modern building industry, asbestos and formaldehyde, suggest that governments require proactive planning and established procedures to respond to future concerns.

The federal government, essentially through a joint committee with the provincial governments, is an international leader in the promotion of IAQ standards. The committee is presently developing standards on 18 prominent air contaminants. When these standards are negotiated and adopted, the Government of Alberta must necessarily play some role in maintaining them. The terms of reference and the mandate for this role can be best handled by a singular designated agency. This agency is needed immediately to determine the scope and magnitude of the concerns within the province of Alberta.

IV. References:

Raab, K. 1984. "Strategies for Healthful Residential Environments." Project Prepared for Canada Mortgage and Housing Corporation.

Alberta Lung Association. 1982. "Lungs at Home." Handout.

Alberta Lung Association. 1976. "Hints for Control of the Home Environment for the Allergic Person." Pamphlet.

World Health Organization. 1979. *Health Aspects Related to Indoor Air Quality: Report on a WHO Working Group.* EURO Reports and Studies 21. Copenhagen: Regional Office for Europe, World Health Organization. See pages 18-23.

Lafavore, M. 1982. "Clean Air Indoors, Something's in the Air." *New Shelter.*

Energy Pathways Inc. 1983. "Indoor Air Pollution and Housing Technology." Prepared for the Research Division of Canada Mortgage and Housing Corporation.

Kirsch, L. 1982. "Behind Closed Doors: Indoor Air Pollution and Government Policy." *Harvard Environmental Law Review* 6(982):339-394.

Spengler, J. D. and K. Sexton. 1983. "Indoor Air Pollution: A Public Health Perspective." *Science* 221 (July 1):9-16.

V. To Be Directed To:

Alberta Community and Occupational Health

VI. Proposed by the Pollution Sub-committee

4.6 RESPONSES TO 1985 RESOLUTIONS

Responses of the various government departments to the 1985 Resolutions were again consolidated by the office of the Minister of Environment. These responses were forwarded to the Council in November 1986 and passed to the Co-ordinating Committee and originating sub-committees for follow-up as appropriate. The complete text of the responses as received from the Minister is printed below:

RESOLUTION ONE – CAUCUS COMMITTEE ON THE ENVIRONMENT

The Premier of Alberta
307 Legislature Building,
Edmonton, Alberta
T5K 2B7

December 16, 1985

Dr. Sheri Dalton,
Chairperson,
Co-ordinating Committee
Environment Council of Alberta,
5555 Calgary Trail Southbound NW
Edmonton, Alberta
T6H 5P9

Dear Dr. Dalton:

Thank you for your November 26th letter and your kind congratulations following my election as Leader of the Progressive Conservative Party of Alberta.

The Caucus Committee structure as it exists appears to be functioning well, and I am not anticipating any changes in the immediate future. However, I will surely be discussing your suggestion concerning the creation of a Caucus Committee on the Environment with my colleagues, if in the future any changes are contemplated.

I appreciate your input, and thank you again for your recommendation.

Sincerely,
Don R. Getty

RESOLUTION TWO – WIND ENERGY

The Alberta Government has been supporting and is continuing to promote wind energy related research, development, and demonstrations, as well as helping to create a healthy climate for an independent and prosperous wind energy industry.

RESOLUTION THREE – FIVE FOREST LAND USE ZONES

The Forest Land Use Zones were established to meet specific area concerns of environmental protection, resource management, and recreational land use within a multiple use context, while integrated Resource Management Plans and Recreation Management Plans were being prepared and evaluated for the areas.

Forest Land Use Zones are only one of a number of potential mechanisms possible to use to achieve a balance between the various needs of these special areas. Reaction from the public and the resource management agencies will be evaluated in each of these areas as their "sunset clauses" come into effect; a decision on extention of land use zones or use of other designation for land management will be made. (In the case of the Wild Kakawa Zone, that would not be until November 1, 1988, rather than 1986, as implied by the ECA resolution.)

RESOLUTION FOUR – WETLAND MANAGEMENT POLICY IN ALBERTA

The Provincial Government recognizes and supports wetland management through programs in a number of departments. Some of these are: endorsing the draft North American Waterfowl Management Plan, the "Wetlands for Tomorrow" program in co-operation with Ducks Unlimited, interpretation and use of wetlands in our parks and recreation areas, fish and wildlife habitat programs, and the management of surface water use through licensing provisions of the Water Resources Act. In recognition of the important ecological, social, and economic aspects of wetlands, the Government is committed to policy co-ordination and enhancement for wetland improvement, maintenance, and use.

RESOLUTION FIVE – CONSERVATION STRATEGY

At the time these comments were submitted this was a proposal by the ECA; in March, 1986 the Public Advisory Committees of ECA published *Prospectus for an Alberta Conservation Strategy.* No government statement should be made on this resolution without taking into consideration the ECA's more recent publication.

The World Conservation Strategy was endorsed by Canada in 1981 and Alberta supported the Strategy in principle.

RESOLUTION SIX – WASTE MANAGEMENT PROGRAM

The Government of Alberta supports at-source separation of waste materials and funds about 15 to 20 projects for the collection of recoverable materials each year. Currently, there are in excess of 100 projects operating in the province that have been directly funded through the Department of Environment, plus a large number of others which have been developed with assistance. The Province, through Alberta Environment, is actively encouraging more sophisticated, all-encompassing approaches to recycling. In addition, work is ongoing into research and development of new markets for recovered materials.

5. OTHER ACTIVITIES OF THE ENVIRONMENT COUNCIL

5.1 CANADIAN ENVIRONMENTAL ADVISORY COUNCILS

The ECA hosted the 10th Assembly of the Canadian Environmental Advisory Councils on September 24 to 26, 1986. The assembly dealt with implementation of conservation strategies with a secondary theme on the environmental implications of trade. The assembly was well attended and we are encouraged by the support of all jurisdictions across Canada for the preparation and implementation of conservation strategies.

The Secretariat to the Canadian Environmental Advisory Council expressed a keen interest in the Environment Council of Alberta's practical approach to office automation and we were pleased to provide advice and assistance to them in this regard.

5.2 BRUNDTLAND COMMISSION

The United Nations' World Commission on Environment and Development (Brundtland Commission) held public hearings in Ottawa in May, 1986. Alistair Crerar, Chief Executive Officer of the ECA, presented a brief on behalf of the ECA. The Alberta Conservation Strategy Steering Committee prepared and presented a brief on behalf of the Public Advisory Committee. The brief of the Chief Executive Officer is available in the form of a major article in the November, 1986 edition of *Policy Options*, under the title of "Anticipate and Prevent." Due to the international significance of this commission and the relevance of the Alberta Conservation Strategy project, the brief from the Steering Committee is transcribed here:

5.2.1 BRIEF FROM THE CONSERVATION STRATEGY STEERING COMMITTEE

We would like to thank the World Commission on Environment and Development for the opportunity to contribute to these meetings.

We are fortunate here in Canada, for not only are we a young country, but we are highly concerned about our environment while our resource base is still relatively large. Indeed, from the early pioneer days, the economy of this country has been dependent on our natural resources and, because of this, environmental awareness has been an important part of the cultural fabric of Canada.

As our southern forests and prairies were gradually converted to crop production, an agricultural economy became the mainstay of the country. The discovery of vast mineral and fossil fuel deposits combined with fairly recent technological advancement has led Canada into a rather abrupt transition from a largely agricultural economy to a primarily industrialized and urbanized economy, albeit still heavily dependent on natural resources.

As resource exploitation increased, concerns about irreparable mistakes being made in regional economic development sparked the Canadian government

into creating the Canada Land Inventory in 1963, following agreements between the federal and provincial governments. This inventory is a comprehensive survey which includes assessment of land capability for agriculture, forestry, recreation, wildlife, and present land use, and was developed with the primary objective of providing facts on which to base land use decisions. In 1971-72, the Canadian Department of the Environment, whose primary mandate was the protection of air, water, and land resources, took over the land inventory. The result of this integration of purposes has proven to be beneficial to resource and land-use planners, who now have comprehensive information available to them showing the interrelationships of such factors as water use, recreation, waste disposal, climate, and land inventory data.

Alberta is unique among the provinces. It is very young (established in 1905) and it has an incredibly large and diverse resource base. Its excellent prairie soils have given rise to a strong agriculturally based economy, while vast forests, fish, and wildlife, and water flowing down through the province fed by the glaciers of the Rocky Mountains, enrich the landscape. Great deposits of non-renewable resources, particularly fossil fuels, underlie the land's surface, and Alberta's burgeoning population, a diverse people with wide-ranging interests and abilities, asserts its claim on the land.

As Alberta has shifted to a more industrialized and urbanized economy, the need for planned development has become more and more imperative. Recognizing this need, the Alberta government has done admirably well in keeping pace with the growing demands on our resources. Forest management, programs to encourage recycling, expenditures on provincial park programs, and legislation governing acid-forming emissions are all areas in which Alberta has shown itself to be a provincial leader.

Despite the commitment of the Alberta government to integrate management and planning of resource development, a number of problems still exist. Integrated management planning occurs primarily at the local level. There appears to be no overall, large-scale planning for sustainable development that encompasses the whole province, nor does there seem to be any major concern for the interfaces either between provinces or within the larger circles of national and international development.

At about the same time (1971-72) that the Canadian Department of Environment absorbed the Canada Land Inventory, the Alberta government took a major step toward involving non-government organizations in the planning and management of the province's resources by establishing the Environment Conservation Authority (ECA). This body was charged with the responsibility for conducting "a continuing review of policies and programs of the Government and its agencies on matters pertaining to environment conservation." The ECA was also directed to hold public hearings on any matter pertaining to environment conservation. Then, in 1977, the name was changed to the Environment Council of Alberta (ECA) to reflect a change in its mandate regarding public hearings. The ECA's responsibilities are unchanged, but it must be directed to hold public hearings by the provincial government. Currently, the ECA is composed of scientific and support staff, a public advisory committee, and appointed panel members for hearings.

The Public Advisory Committee (PAC) comprises some 120 Alberta non-government organizations (NGOs). They are organized into six study groups each of which conducts eight or nine meetings per year. There are two other committees advising the ECA, a Science Advisory Committee (SAC), and an Environmental Education Advisory Committee (EEAC). In total, there may be 75 meetings annually where representatives from these NGOs have the opportunity to exchange information, host guest speakers on environmental matters, and conduct committee business. The primary function of PAC is to advise the ECA and the Government on environmental issues.

Inspired by the World Conservation Strategy (WCS) and its endorsement by the Canadian government in 1981 and the Alberta government in

1982, PAC in 1985 embarked on the development of a Conservation Strategy for Alberta (CSA). A Prospectus document was prepared and approved at the annual joint meeting of PAC and the ECA in December, 1985. A copy of the *Prospectus for an Alberta Conservation Strategy* is attached, and it is intended that this document represent the bulk of our contribution to this Commission.

The *Prospectus* is designed:

1) to provide the necessary background for considering a conservation strategy for Alberta, by discussing the World Conservation Strategy, on which an Alberta strategy would be based;

2) to stimulate discussion about the merits and weaknesses of the major underlying principles of a conservation strategy by describing these principles in detail;

3) to describe in general terms the objectives that should be established for an Alberta conservation strategy.

The Prospectus for a CSA contains six objectives. The first three are the same as the main priorities of the WCS. The three additional objectives included in the Prospectus which we believe are essential to a CSA are:

1) to provide for the recreational, spiritual, aesthetic, and other non-material needs of Albertans;

2) to maintain and improve the quality of life in the urban environment;

3) to use and manage our non-renewable resources in the interests of developing a long-term sustainable economy for Albertans.

It is important that the World Commission on Environment and Development understand that the Public Advisory Committee does not believe that preparation of a list of programs and policies which coincide with the objectives of the World Conservation Strategy in any way constitutes a strategy. Alberta presently has many excellent conservation programs and policies in virtually every government department that fit well with the principles and objectives of the WCS. However, the co-ordination and integration of these many policies and programs across the entire province, among various government departments, and within the many sectors of the economy has not been explicitly examined to determine gaps, overlaps, duplications, or stunning successes that might be applied elsewhere. Simply listing and describing the many quite laudable programs and policies supportive of the WCS objectives provides a forum for self-congratulation, but does not involve a strategy. While much of the back-patting is deserved, this country does not have a conservation strategy and little progress seems to be occurring. We Canadians embrace the concepts and goals, but resist the hard job of formulating a workable strategy to guide us from here to there.

The explicit and open examination and discussion of all policies, programs, and activities (of industry and individuals as well as of government) that directly or indirectly affect conservation and development are viewed as the paramount task in developing any conservation strategy. It is toward this end that the PAC is striving. The PAC believes that a framework must be built within which the many programs and policies supportive of the WCS objectives can be evaluated, integrated, and improved. The piecemeal approach will continue until there is an integrating structure within which policies and programs can fit. Without a framework document that describes the objectives and the means for reaching them, some of the most important features of the WCS are lost. In addition, without such a document, there is no overt commitment on the part of a society and its government to the realization of the objectives. PAC further believes that only through joint citizen and business initiatives will this process take place in a timely manner and with the highest chances for success. Government must be brought into the process at an early stage to ensure that input and commitment to the final product are obtained from all sectors, both public and private.

Currently, a steering committee representing each element of PAC is evaluating a series of options for preparing a draft strategy. All of the options are premised upon seeking the maximum possible participation of the NGOs represented on PAC. Since so many significant interest groups are represented on PAC, the process of developing a CSA is extremely important. The intent is to obtain a consensus of the NGOs on a draft conservation strategy by facilitating those NGOs that are most interested, knowledgeable, and affected by the development of a conservation strategy in preparing a report about their sector. These reports or papers would be prepared under the auspices of the Steering Committee and subject to review by all sectors affected. From these several papers or reports, which are intended to emphasize the interconnections of each sector with the others, a draft CSA will be prepared, perhaps through a series of workshops bringing together representatives from all the sectors. The objective of the workshops would be to discuss the best mechanisms whereby each sector might better accommodate the interests of the others in an equitable and efficient manner in the common cause of integrating development and conservation. The Steering Committee believes that some variant on this process can result in a fully integrated CSA with a maximum possible probability for acceptance and implementation. The process described represents the general direction and objectives chosen. Detailed progress will depend on the opportunities, time, and talent available.

The Public Advisory Committees are uniquely suited to developing a conservation strategy. Similar organizations may be required in other provinces before actual conservation strategies are begun. Government bureaucracies may be unwilling and, by their very nature, unable to develop truly integrated plans for development and conservation, simply because of their departmental organization. Departmental-compartmental approaches to conservation and development have carried us far in the Western World. This organizational approach is as necessary now as it ever has been, but it is time to take stock of our programs, look at the interstices, the edges of things, the interactions, the overlaps, the cross purposes that this approach unavoidably creates. Then we can streamline programs, clarify responsibilities, and perhaps order our world in a more efficient manner and direct it towards agreed-upon goals.

A government bureaucracy has too many powerful vested interests in present programs and policies to objectively evaluate itself. Naturally, the fullest possible participation of government agencies is needed to develop a workable conservation strategy. Only those who are involved in administering the policies and programs of government can provide the insight and understanding necessary for evaluation. Only NGOs that are the receptors of government programs and policies can provide their perceptions of these same programs. However, only a broad cross-department look at all the various programs and policies that affect conservation and development can lead to co-ordination and integration. There is no government agency responsible for this kind of broad program evaluation federally or provincially, to our knowledge, and given an appreciation of our bureaucracy, it is difficult to see how it could exist and operate effectively. The PAC sees the development of a conservation strategy document as a first step in a process that will continue within the government bureaucracy and be welcomed by most of its employees.

The Public Advisory Committee is composed entirely of volunteers. As such, it moves relatively slowly, but because it has a permanent secretariat and regularly scheduled meetings it can make noticeable progress each month. The Steering Committee is hopeful that appropriate sectoral sub-committees can be formed, terms of reference developed for them, and preparation of background reports begun by mid-1986. The time required to prepare these documents will vary according to the resources available to each group. Some material might be expected by late fall; other reports may not be completed until some time in 1987. Optimistically, conservation strategy workshops might be held in the spring or fall of 1987. Depending upon the timing of these workshops and the wishes of the provincial government,

public hearings could be held in the spring or fall of 1988. A conservation strategy for Alberta could then be delivered to government for its judgement six months later.

This may sound like a long and arduous path to what might be simply written by professional writers in several months. While it is true that a draft conservation strategy for Alberta could be written by some of the talented people associated with PAC in one year or less, it is believed that this course of action would run the very serious risk of becoming just another exercise in intellectual navel gazing rather than a process of major significance and change. The busy representatives of both the large and small NGOs composing PAC are not interested in paper production. They are committed to improving the quality of life in this province in full recognition that economic development, conservation, and efficient use of resources, and, in some cases, preservation are the essential pieces of the policy puzzle. PAC believes that development of a conservation strategy provides an unprecedented opportunity to identify goals and options for the future, and to plan in a conscious and co-ordinated manner the direction in which we wish to move. PAC understands fully that the future holds innumerable imponderables and surprises, but a coherent general plan built on agreed-upon principles can give us the flexibility and resources to meet the unexpected with balance and strength.

As a provincial conservation strategy is developed, it is the edges, the gaps, the bridges that must be remembered – the boundaries between jurisdictions, between resource uses – and interconnections developed. Within a conservation strategy for Alberta, mechanisms and goals for rural/municipal interfaces and for those areas of competing uses between resources and regions must be established to identify conflicts and provide resolutions that recognize and allow for participation by all interested parties. On a larger scale, such conflicts between provinces must be allowed for, and a process for establishing similar mechanisms proposed. Recognition must also be given to the inevitable international conflicts, a careful analysis must be made of the contributions toward their resolution which may be made at the provincial level, and encouragement offered toward the proposal by Canada of mechanisms for their resolution. At all levels, involvement of all interested parties must be provided for, if the resolution is to work.

The incorporation into these mechanisms of all interested parties is critical. For the most part this will mean government agencies (usually from more than one government), industrial groups, commercial groups, and "public interest" groups, as well, possibly, as private individuals. The NGO involvement is so critical that considerations of funding must be included in the mechanisms provided. But critical it is. Private individuals, who are in the long run those with the ultimate concerns, will often, perhaps usually, rely on groups, of which they may not even be members, to represent their long-term interests. If the industrial, commercial, and individual interests affected by the resolution of a conflict are not involved in the resolution process, no legislation will make them accept and act on it.

We are fortunate in Canada and especially in Alberta in having a long history of building such mechanisms. At the federal level, for instance, the Federal Environmental Assessment and Review Office operated under rules which provide for extensive and totally public assessment of the results of any proposal for development under federal jurisdiction. In this province, public hearings of the Environment Council of Alberta on large issues related to development and conservation, and the hearings of the Energy Resources Conservation Board on specific energy project proposals, provide similar opportunities. The logical next step is to extend these opportunities to more projects and to co-ordinate the various resource uses, rather than considering energy projects in one forum and forestry proposals in another, for example; this step should be easier in light of our history, and it may be hoped that the success of these efforts in Alberta and in Canada as a whole may provide a set of models which may be adapted and improved elsewhere.

There remains the limited degree to which Canada, and even more, Alberta, can, by example and policy, influence other countries to live within conservation strategies. Our own provincial conservation strategy must recognize that trade policies, foreign aid, and even casual relationships between countries can be used. Twinned cities should share concerns, ideas, and expertise in this cause, and trade and foreign aid policies should demonstrate as much concern for viable conservation planning as for human rights or stable industrial opportunities. Only then can we feel that we have begun to accept our responsibilities under the World Conservation Strategy fully.

5.3 WORLD CONSERVATION STRATEGY CONFERENCE

Ottawa hosted an international conference in June, 1986 to assess global progress towards development and implementation of conservation strategies. Sponsored by the International Union for the Conservation of Nature and Natural Resources, the conference attracted some 500 delegates from almost 100 nations.

Much of the one-week conference was occupied by 22 concurrent workshops directed toward updating and improving the original WCS document, and increasing the rate of strategy development. The conference resulted in numerous recommendations regarding sustainable development, many of which are now being acted upon by several nations (including Canada and non-government organizations such as the World Bank, CIDA, and other international aid agencies).

Alberta was well represented and the Steering Committee members who attended returned full of enthusiasm and even more optimistic about the process being used by Alberta to develop a conservation strategy. We are indeed very pleased to be part of an activity that is underway in more than 40 countries. The principles contained in the World Conservation Strategy are globally unifying and are easily endorsed by nations with very different economic, cultural, and political character.

5.4 COMPUTER BULLETIN BOARD

In recent years, the Environment Council has acquired a considerable amount of computer expertise. As in many offices, our computer equipment was idle outside of normal office hours. This changed at the ECA on October 3, 1986, when ECA ON-LINE became operational.

ECA ON-LINE is a computerized bulletin board which operates during the evenings and on weekends. It is accessible to anyone with a computer and a modem. The board has several sections.

Bulletins – This section has information on upcoming environmental events, editorials, updates on projects like the Alberta Conservation Strategy, descriptions of the ECA and the Public Advisory Committees, toll-free numbers for environmental information, and upcoming agendas for Public Advisory Committee meetings.

Message System – This part of the board provides for an exchange of information on any environmental matter of interest to users. Callers have used the message system to ask the ECA and others where information is available.

Conferences – This is a special application of the message system whereby callers can carry out a debate on a specific environmental issue. The popular issues in 1986 related to the Alberta Conservation Strategy and the ethics of hunting and fishing.

Files – Files can be copied from the board and users are asked to make contributions whenever possible. For example, people or groups with more to say about a topic than can be conveniently accommodated through the message system can prepare their comments at home and then transmit them to the ECA in seconds, for others to read.

Present files include eight discussion papers relating to conferences; the ECA publication list; a list of organizations with membership on the Public Advisory Committee; locations of ECA information

centers; bibliographies on recycling and conservation strategies; recent press releases; minutes of recent PAC meetings; a program for analyzing appropriateness of recreation programs; five files on environmental resources, courses, programs, and projects; and a small batch of programs useful for bulletin board users, including an excellent full-featured computer communications program.

The board is available to the user without charge. Unfortunately, users outside of the Edmonton toll-free calling area are faced with long-distance charges. Even with this restriction, there has been considerable interest in the project. From October 3 to the end of the calendar year there were 383 calls and a total on-line time of about 113 hours. Ninety-two files were downloaded from the board and 25 were uploaded.

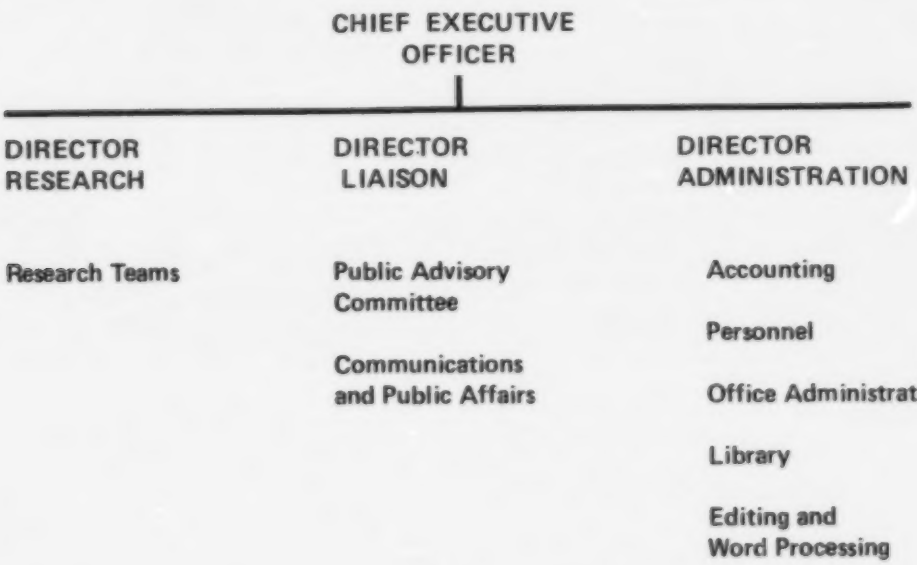
ECA ON-LINE operates from 4:30 pm to 8:15 am from Monday to Thursday, and from 4:30 pm Friday to 8:15 am Monday, that is, on the weekends. The phone number is 438-5793, and technical specifications include: 300 or 1200 baud, parity = none, 8 data bits, 1 stop bit.

6. ADMINISTRATION

The Administration Division is responsible for providing services to the Environment Council in the areas of accounting, budgeting, editing, library, messenger, office management, personnel, print procurement, and purchasing.

The Council occupies the 8th floor, Weber Centre, 5555 Calgary Trail Southbound N.W., Edmonton.

6.1 ORGANIZATION OF THE ECA



1. CHIEF EXECUTIVE OFFICER – Exercises the power of the council and performs the duties and functions of the council, and is a member and Vice-Chairman of panels constituted by the Lieutenant-Governor in Council.
2. DIRECTOR, RESEARCH – Directs research officers and is responsible for the scientific activities of the council.
3. DIRECTOR, LIAISON – Directs assistance to the Public Advisory Committees; responsible for communications, public relations, and public affairs.
4. DIRECTOR, ADMINISTRATION – Directs and supervises the administrative systems – financial, accounting, personnel, editing, and word processing functions.

6.2 FISCAL REPORT

Funds for the operation of the Environment Council are provided under the Minister of Environment's Vote 8 – Overview and Co-ordination of Environment Conservation. These funds are transferred to the Council from the Department of Treasury on a monthly basis, and with the exception of salaries, are deposited in the Council's bank account at the main branch of the Canadian Imperial Bank of Commerce, Edmonton. Cheques are issued directly by the Council for payment of all accounts. During 1986, a total of 1,106 cheques were issued.

With the operation of its own bank account, the Council operates at arm's length from the Alberta Government; however, the financial statements are audited by the Office of the Auditor General. The financial statements as of March 31, 1986 follow.

ENVIRONMENT COUNCIL OF ALBERTA

FINANCIAL STATEMENTS

MARCH 31, 1986

Auditor's Report

Balance Sheet

Statement of Revenue, Expenditure and Unexpended Funds

Statement of Equity in Fixed Assets

Notes to the Financial Statements

ALBERTA LEGISLATURE

OFFICE OF THE AUDITOR GENERAL

AUDITOR'S REPORT

To the Chief Executive Officer of the
Environment Council of Alberta

I have examined the balance sheet of the Environment Council of Alberta as at March 31, 1986 and the statements of revenue, expenditure and unexpended funds and equity in fixed assets for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Council as at March 31, 1986 and the results of its operations for the year then ended in accordance with the disclosed basis of accounting, considered appropriate in the circumstances, as described in Note 2 to the financial statements applied on a basis consistent with that of the preceding year.

Donald D. Salmon

C.A.
Auditor General

Edmonton, Alberta
August 25, 1986

ENVIRONMENT COUNCIL OF ALBERTA

BALANCE SHEET

AS AT MARCH 31, 1986

	1986	1985
ASSETS		
Current:		
Cash	$243,880	$242,570
Contributions receivable, Province of Alberta	117,000	-
Prepaid expenses	6,707	7,505
	367,587	250,075
Fixed:		
Office equipment, at cost	125,819	112,687
Less: Accumulated depreciation	98,166	77,492
	27,653	35,195
	$395,240	$285,270
LIABILITIES AND EQUITY		
Current:		
Accounts payable	$ 26,124	$ 21,474
Equity:		
Equity in fixed assets	27,653	35,195
Unexpended funds	341,463	228,601
	369,116	263,796
	$395,240	$285,270

The accompanying notes are part of these financial statements.

ENVIRONMENT COUNCIL OF ALBERTA

STATEMENT OF REVENUE, EXPENDITURE AND UNEXPENDED FUNDS

FOR THE YEAR ENDED MARCH 31, 1986

	1986	1985
Revenue:		
Contributions by the Province of Alberta	$1,174,721	$1,006,134
Expenditure:		
Salaries	682,217	713,309
Travelling	137,116	130,675
Employee benefits	77,282	69,764
Printing	46,892	41,925
Equipment maintenance, office supplies and postage	41,678	35,684
Fees and commissions	20,024	84,467
Equipment rental	17,805	32,207
Advertising	13,141	14,764
Equipment purchases	13,132	30,567
Library	7,841	6,272
Telephone	3,844	3,646
Miscellaneous	887	1,594
	1,061,859	1,164,874
Excess of revenue over expenditure	112,862	(158,740)
Unexpended funds at beginning of year	228,601	387,341
Unexpended funds at end of year	$ 341,463	$ 228,601

ENVIRONMENT COUNCIL OF ALBERTA

STATEMENT OF EQUITY IN FIXED ASSETS

FOR THE YEAR ENDED MARCH 31, 1986

	1986	1985
Balance at beginning of year	$35,195	$22,745
Add: Office equipment purchased from operations	13,132	30,567
	48,327	53,312
Less: Depreciation for the year	20,674	18,117
Balance at end of year	$27,653	$35,195

ENVIRONMENT COUNCIL OF ALBERTA

NOTES TO THE FINANCIAL STATEMENTS

MARCH 31, 1986

Note 1 Authority

The Environment Council of Alberta operates under the authority of the Environment Council Act, Chapter E-13, Revised Statutes of Alberta 1980.

Note 2 Significant Accounting Policies and Reporting Practices

These financial statements have been prepared in accordance with generally accepted accounting principles except that fixed assets are charged to expense at date of acquisition. The fixed assets are also shown on the balance sheet at original cost less accumulated depreciation, with a corresponding credit to equity in fixed assets. Depreciation is charged to equity in fixed assets and is provided over the estimated useful life of the assets on the straight line method at a rate of 33 1/3% for computer equipment and software and 10% for the remaining office equipment.

A statement of changes in financial position is not provided as disclosure in these financial statements is considered to be adequate.

Note 3 Administration Expenses

Office furniture and accommodation are provided to the Council at no cost by the Province of Alberta and accordingly are not reflected in these financial statements.

Note 4 Approval of Financial Statements

These financial statements were approved by management.

6.3 PERSONNEL

The number of full-time permanent salaried positions was reduced from 22 to 21 during the year as a result of downsizing in the public service.

All permanent salaried positions are under the purview of the Public Service Commissioner and the regulations issued by the Personnel Administration Office are applicable. Non-management and non-excluded staff are members of the Alberta Union of Provincial Employees.

6.4 LIBRARY SERVICES

The responsibilities of the ECA Library are:

1) to provide information and background material to support projects of the Council and its research staff;
2) to provide a source of environmental information for the general public;
3) to manage and distribute all Environment Council publications.

The library contains 7,272 books and government documents and subscribes to 135 periodicals and six newspapers. The collection also includes an extensive file of newspaper clippings on environmental matters, maps, and a selection of general reference material.

6.4.1 SERVICES TO THE ECA STAFF

Loans to Council staff (excluding periodicals):	253
Periodical loans to Council staff:	186
Reference questions answered:	432
Material borrowed from other libraries (interlibrary loans):	534

6.4.2 SERVICES TO THE PUBLIC

Inquiries received by phone, letter, or personal visits:	1,221
Interlibrary loans to the public and other agencies:	54
Loans of the film *One Man's Garbage, Another Man's Gold*?	29

6.4.3 PUBLICATIONS

During the year, the Library was responsible for the distribution of a large number of publications and brochures.

Alberta's Clean Air Act	766
Alberta's Clean Water Act	869
Prospectus for an Alberta Conservation Strategy	2,310
Annual Report 1985	938
Miscellaneous Publications	3,590
Resource Recycling in Alberta	1,408
The Use of Municipal Waste as Fuel	1,268
Economic Barriers to Recycling	1,190
Municipal Solid Waste: Alberta's Untapped Resource	1,250
Garbage to Gold: Issues and Opportunities	1,391
A Social Perspective of Recycling	1,126
Bibliography of Recycling	781
Total distributed	16,887

A complete list of Environment Council publications is appended to this report (Appendix B).

The ECA mailing list was revised and updated throughout the year, and consisted of 5,509 addresses at the end of 1986:

General list:	2,216 addresses
Recycling list:	2,356 addresses
Conservation Strategy list:	937 addresses

Convenient local access to Environment Council information is available at a total of 44 depository libraries or "Information Centers" located throughout Alberta (see Appendix C). Transcripts of public hearings have a more limited distribution; these may be viewed at the locations marked with an asterisk in Appendix C.

6.5 EDITING SERVICES

6.5.1 REPORTS PUBLISHED IN 1986

Recycling Reports – Six recycling reports were published early in 1986 in preparation for public hearings on recycling. The reports were: *The Use of Municipal Waste as Fuel* (a re-issue of a report prepared earlier for the Public Advisory Committee), *Resource Recycling in Alberta, Economic Barriers to Recycling, Municipal Solid Waste: Alberta's Untapped Resource, Garbage to Gold: Issues and Opportunities,* and *A Social Perspective of Recycling.*

Prospectus for an Alberta Conservation Strategy – the *Prospectus* was published in March. Two in-house versions of the report had been produced for the Council's Public Advisory Committee; after ratification at the 1985 Annual Joint Meeting, the report was produced for public distribution.

Clean Air Report – this comprehensive review of Alberta's clean air legislation, regulations, and policies was released to the public in August.

Clean Water Report – the companion report to the Clean Air report, and released simultaneously.

6.5.2 REPORTS IN PREPARATION IN 1986

Recycling Report and Recommendations – While work on the draft report and recommendations proceeded quickly, the report had not reached the editing stage by year's end.

6.6 OFFICE AUTOMATION

The ECA's Office Automation Committee met several times during the year to evaluate the present system and to consider how the Council might become more efficient in all departments. As a result of these deliberations, the Council replaced some aging typewriters with microcomputer word processing equipment in two areas, and replaced a 35 cps dot-matrix printer with an 8 ppm laser printer. Several in-house training sessions were held, with staff acting as instructors, to familiarize staff with the new equipment.

The laser printer has allowed us to do some typesetting in-house that previously had to be sent to an outside typesetter, as well as providing rapid turnaround time for the Council's draft reports. The Office Automation Committee is continuing to evaluate the impact of the laser printer, and is investigating desktop publishing software that would maximize the capability of our new equipment. The Council remains committed to doing more with less, and office automation is one way this is being accomplished.

APPENDIX A. PUBLIC ADVISORY COMMITTEE REPRESENTATIVES

(as of November 1986)

Public Advisory Committee on the Environment

Sponsoring Organizations and Representatives

Academic Women's Association . . . . . Ms. M. Turnell
Alberta Association of Architects . . . . . Mr. A.M. Holland
Alberta Association of Canadian Institute of Planners . . . . . Mr. J. McLaughlin
Alberta Association of Landscape Architects . . . . . Mr. K.G. Carson
Alberta Association of Municipal Districts and Counties . . . . . Mr. S. Shwetz
Alberta Association of Registered Nurses . . . . . Mrs. S. Henderson
Alberta Cancer Board . . . . . Mrs. G. Bako
Alberta Chiropractic Association . . . . . Dr. R. Gehrke
Alberta Federation of Labour . . . . . Mr. A. Theobald
Alberta Fish and Game Association . . . . . Mr. H. Fauser and Mr. G. Merrick
Alberta Forest Products Association . . . . . Mr. A. Rytz
Alberta Institute of Agrologists . . . . . Mr. G. Shaw
Alberta Irrigation Projects Association . . . . . Mr. R. Jensen
Alberta Lung Association . . . . . Mrs. D.J. Lewoniuk
Alberta Medical Association . . . . . Dr. J. MacQuarrie
Alberta Motion Picture Industry Association . . . . . Ms. L. Miller
Alberta Oil Sands Industry Environmental Association . . . . Mr. S.E. Stephansson
Alberta Pharmaceutical Association . . . . . Mrs. J. Roschlaub
Alberta Public Health Association . . . . . Mr. B. Alleyne
Alberta Research Council . . . . . Dr. R.J. Fessenden
Alberta School Trustees Association . . . . . Mrs. M. Stephenson
Alberta Trappers' Central Association . . . . . Mr. J. Wooders
Alberta Urban Municipalities Association . . . . . Alderman C. Reid
Alberta Veterinary Medical Association . . . . . Dr. A. Gerrow
Alberta Wheat Pool . . . . . Mr. H.R. Patching
Alberta Wilderness Association . . . . . Ms. J. McLean-Hayden
Alberta Women's Institute . . . . . Mrs. M. Goodwin
Archaeological Society of Alberta . . . . . Mr. G.F. Paschen
Association of Professional Engineers, Geologists and Geophysicists of Alberta . . . . . Mr. J.E. Staples
Calgary Chamber of Commerce . . . . . Ms. J.Hodgson
Calgary Local Council of Women . . . . . Mrs. S. Nelson Pier
Canada West Foundation . . . . . Dr. D.K. Elton
Canadian Association of Re-Refiners . . . . . Mr. R. Kalmacoff
Canadian Institute of Forestry . . . . . Mr. T. Williamson
Canadian Institute of Public Health Inspectors (Alberta Branch) . . . . Mr. W. Irwin
Canadian Manufacturers' Association . . . . . Mr. A. Metcalfe
Canadian Meteorological and Oceanographic Society (Alberta Centre) . . . . . Dr. L. Wojtiw
Canadian Nature Federation . . . . . Mr. D. Stiles and Ms. M. Posey
Canadian Parks and Wilderness Society (CPAWS)
(Edmonton Chapter) . . . . . Dr. G. Swinnerton
(Calgary/Banff Chapter) . . . . . Ms. B. Beswick
Canadian Petroleum Association . . . . . Mr. G. Stewart
Canadian Society of Environmental Biologists (Alberta Chapter) . . . . . Ms. R. Usher
Canadian Water Resources Association (Alberta Branch) . . . . . Mr. G. Ribeiro
Christian Farmers Federation . . . . . Mr. A. Kolk
Citizens for Public Justice . . . . . Mr. W. Koning
City of Airdrie . . . . . Mr. R. Davidson
City of Calgary . . . . . Ms. J. Lewin
City of Camrose . . . . . Dr. M. Muc
City of Drumheller . . . . . Mr. R. Romanetz
City of Edmonton . . . . . Mrs. P. Wight
City of Fort McMurray . . . . . Alderman P. Van Belle
City of Fort Saskatchewan . . . . . Alderman D. Petroski
City of Grande Prairie . . . . . Mr. E.G. Radbourne
City of Leduc . . . . . Mr. M. Fitzpatrick
City of Lethbridge . . . . . Alderman W.R. Cousins
City of Lloydminster . . . . . Alderman R. Summers-Gill
City of Medicine Hat . . . . . Mr. J. Hirsch
City of Red Deer . . . . . Alderman L. Pimm
City of St. Albert . . . . . Mr. D. Fraser
City of Wetaskiwin . . . . . Mr. N. Carlson
Coal Association of Canada . . . . . Mr. A. Kennedy
Cold Lake Community Advisory Committee . . . . . Mr. D. Appleby
Community Planning Association of Alberta . . . . . Ms. A. Parkinson
Consumers' Association of Canada . . . . . Mrs. E.S. Hunter and Mrs. M. Lutz
Council of Alberta Rural Ratepayers' Associations . . . . . Mr. J.C. Finlay
Ducks Unlimited Canada . . . . . Mr. G.R. Stewart
Edmonton Chamber of Commerce . . . . . Mr. D. Mallon
Edmonton Local Council of Women . . . . . Ms. E.L. Butler
Electric Utility Planning Council . . . . . Mr. B. Peel
Energy Resources Conservation Board . . . . . Mr. H.O. Lillo
Entomological Society of Alberta . . . . . Mr. J.A. Shemanchuk
Federation of Alberta Naturalists . . . . . Mr. H. Gardner

Foothills Protective Association	Mr. C. Blackburn, Jr.
Fort Saskatchewan Regional Industrial Association	Mr. T. Fletcher
Health Unit Association of Alberta	Mrs. L. Feltham
Law Society of Alberta	Mr. D.R. Thomas
Lloydminster Chamber of Commerce	Mrs. J. Sloan
Northwestern Fishing Co-op	Mr. S. Linington
Save Tomorrow Oppose Pollution (STOP)	Mr. R.G. Kuhn
Sierra Club of Alberta	Mr. H. Zenger
Society for the Protection of Architectural Resources in Edmonton (SPARE)	Mr. B. Wyness
Solar Energy Society (Calgary Chapter)	Dr. J.E. Rapson
Southern Alberta Environmental Group	Mr. G.R. Stewart
Strathcona Industrial Association	Mr. I. Macdonald
Swift Fox Conservation Society	Mr. C. Schroeder
Unifarm	Mrs. E. Friesen
United Farmers of Alberta Co-operative Ltd.	Mr. C. Fawcett
University Womens' Club of Edmonton (Canadian Federation of University Women)	Mrs. P. Reschenthaler
Urban Development Institute of Alberta	Dr. D.E. King
Weed Control Research Society of Alberta	Dr. M. Hussain
Western Barley Growers' Association	Mr. S. Wiskel
Western Stock Growers' Association	Mr. E. Jarvis
Wildlife Society of Canada	Ms. R. Usher
Women of Unifarm	Mrs. M. Newton
YWCA	Mrs. R. Robinson

Educational Institutions and Representatives

Athabasca University	Dr.R.G. Holmberg
Canadian Union College	Dr. P. Ramalingam
Cascade Society of Mount Royal College	Mr. G. Ferguson
Concordia College	Dr. S. Dalton
Fairview College	Mr. T. Garner
Grande Prairie Regional College	Dr. J. Snyder
Keyano College	Mr. P. Rudiak
Lakeland College – Vermilion Campus	Dr. M.H. Chaudhry
Lethbridge Community College	Mr. B. Meller
Medicine Hat College	Dr. R. Mutch
Mount Royal College	Dr. K. Cummins
Northern Alberta Institute of Technology	Dr. W. Buchta
Olds College	Mr. R.A. Hill
Red Deer College	Mr. G. Fabris
Southern Alberta Institute of Technology	Mr. D.A. Clarke
University of Alberta	Dr. H. Madill and Mr. M. Henderson
University of Calgary	Mr. W.A. Ross
University of Lethbridge	Dr. J. Harter

Non-Sponsored Members

The current list of unaffiliated members follows:

Mrs. S. Abercrombie
Ms. L. Allison
Mr. K.J. Blom
Mrs. D. Broadbent
Mr. W.D. Broughton
Mr. K. Driver
Dr. K. Pennifold
Mr. R.M. Richardson
Mr. W.K. Ross
Dr. R. Scace
Mr. A.C. Dunkley
Mr. W.A. Flook
Ms. J. Hedenstrom
Dr. M. Kostuch
Mr. E. Kure
Mrs. B. Paschen
Mr. R. Whistance-Smith
Mr. N.S. White
Dr. J.C. Wood

Science Advisory Committee Members

Dr. C.F. Bentley
Dr. H. Buckmaster
Dr. S. Dalton
Dr. W.A. Fuller
Ms. M. Haag
Dr. J. Hackler
Ms. L.P. Horstman
Dr. D. Kvill
Dr. R.K. Lane
Dr. P. Mahaffy
Dr. W. Moser
Dr. R.P. Pharis
Dr. W.E. Phillips
Dr. B. Rogers
Dr. D. Thompson
Dr. W.H. Vanden Born
Dr. T.S. Veeman
Dr. P. Woodard

Environmental Education Advisory Committee Members

Ms. M. Bailey
Dr. L. Bakshi
Ms. J. Barwise
Mr. B. Batycky
Ms. E. Beaubien
Mrs. J. Finlay
Dr. J. Godfrey
Dr. J. Guay
Mr. L. Johnson
Mr. J. Martin
Mr. D. Merrills
Mr. R. Mrazek
Mr. W. Pearce
Dr. W. Samiroden
Mr. D. Spalding
Mr. D. Stoker
Mr. B. Wylie
Ms. W. Zelt

APPENDIX B. LIST OF PUBLICATIONS

December 1986

BROCHURES

Environment Council of Alberta. July 1983.
Public Hearings.
What in the World is a Conservation Strategy?

LEGISLATION

The Environment Council Act. Chapter E-13, R.S.A. 1980.

ANNUAL REPORTS

Annual Report, 1981.
Annual Report, 1982.
Annual Report, 1983.
Annual Report, 1984.
Annual Report, 1985.

PUBLICATIONS RELATED TO PUBLIC HEARINGS

The Conservation of Historical and Archaeological Resources in Alberta.

Report and Recommendations. June 1973.

The Use of Pesticides and Herbicides in Alberta.

Terms of Reference. September 1974.

Erosion of Land in Northwestern Alberta.

Anthropogenic Erosion, Swan Hills, Alberta. (2nd edition) January 1976.
Report and Recommendations. November 1976.

Continued Public Hearings into the Flow Regulation of the Red Deer River.

Terms of Reference and Background Information. December 1976.
Red Deer River Basin. Preliminary Planning Report on Potential Damsites Upstream from Sundre. September 1976.
Report and Recommendations. June 1977.

Environmental Effects of Forestry Operations in Alberta.

Terms of Reference and Background Information. September 1977.
The Environmental Effects of Timber Production in Alberta: An Overview. August 1977.

The Environmental Effects of Timber Production in Alberta: Institutional and Legislative Analysis. August 1977.
Potential for Biomass Energy Production in Alberta Based on Timber Resources. 1977.
The Environmental Effects of Timber Harvesting in Alberta: A Summary. 1973.
Perspectives I: The Forestry Industry in the Peace River Region of Alberta. September 1977.
Perspectives II: The Forestry Industry in Alberta. November 1977.
Perspectives III: Fish and Wildlife Aspects of the Environmental Effects of Forestry Operations in Alberta. October 1977.
Forest Recreation in Alberta. March 1978.
Report and Recommendations. February 1979.

Management of Water Resources within the Oldman River Basin.

Terms of Reference and Background Information. September 1978.
Report and Recommendations. August 1979.

The Management and Disposal of Hazardous Waste.

Background Information for the Public Hearings on the Management and Disposal of Hazardous Waste. January 1980.
The Administration and Regulation of Hazardous Waste for the Public Hearings on the Management and Disposal of Hazardous Waste. January 1980.
Report and Recommendations. December 1980.

Noise in Alberta.

Noise: Transportation Noise. (Brochure) September 1980.
Noise: Planning Considerations. (Brochure) September 1980.
Noise Around the Home. (Brochure) December 1980.
Administration and Regulation of Noise in Alberta. December 1980.
Noise in the Workplace. January 1981.
Economic Aspects of Noise in Alberta. September 1980.
Report and Recommendations. July 1982.

Maintaining and Expanding the Agricultural Land Base in Alberta.

Factors Affecting Summerfallow Acreage in Alberta. August 1981.
Factors Affecting Summerfallow Acreage in Alberta: Summary. August 1981.
The Agricultural Land Base in Alberta. August 1981.
The Agricultural Land Base in Alberta: Summary. November 1981.
Agricultural Land and Land Use Planning in Alberta: A Review of Planning Legislation and Practices. October 1981.
Agricultural Land and Land Use Planning in Alberta: Summary and Issues. November 1981.
Agriculture and the Environment. November 1981.
Agriculture and the Environment: Summary. March 1982.
Urbanization of Agricultural Land. December 1981.

Urbanization of Agricultural Land: Summary. December 1981.
Rural Subdivision in the Edmonton, Battle River, Red Deer, and Calgary Regional Planning Commissions, 1977 to 1979. February 1982.
Irrigation Agriculture in Alberta. March 1982.
Irrigation Agriculture in Alberta: Summary. March 1982.
Dryland Salinity in Alberta. March 1982.
Options for Protecting Agricultural Land. April 1982.
Soil Fertility and Land Productivity in Alberta. July 1982.
Fisheries and Wildlife Resources and the Agricultural Land Base in Alberta. July 1982.
Economics of Agriculture in Alberta: Selected Issues. July 1982.
A Summary of the Economics of Agriculture in Alberta: Selected Issues. July 1982.
An Analysis of Legislation Affecting Agricultural Land in Alberta. July 1982.
Soil Fertility, Land Productivity and Dryland Salinity in Alberta: Summary. September 1982.
Agriculture and Public Land Management in Alberta. August 1982.
Greenhouse Production in Alberta. September 1982.
Maintaining and Expanding the Agricultural Land Base in Alberta Terms of Reference and Background Information. July 1982.
The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base. October 1982.
The Impacts of Linear Developments, Resource Extraction, and Industry on the Agricultural Land Base: Summary. October 1982.
Recreation on Agricultural Land in Alberta. November 1982.
Recreation on Agricultural Land in Alberta: Summary. November 1982.
Research and Agricultural Productivity in Alberta. September 1982.
An Analysis of Agricultural Research and Productivity in Alberta. January 1983.
Agricultural Land Protection Mechanisms in Canada. March 1983.
Summary Report and Recommendations. December 1984.
Technical Report and Recommendations. March 1985.

Recycling of Waste in Alberta.

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SCIENCE ADVISORY COMMITTEE

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APPENDIX C. LOCATION OF INFORMATION CENTRES

Banff

The Banff Centre
Box 1020
Banff, Alberta
T0L 0C0

Blairmore

Blairmore Municipal
Library
Blairmore, Alberta
T0K 0E0

Bonnyville

Bonnyville Municipal
Library
Box 1438
Bonnyville, Alberta
T0A 0L0

Brooks

Brooks Public Library *
Box 1149
Brooks, Alberta
T0J 0J0

Calgary

Calgary Public Library *
Business and Science
616 McLeod Trail SE
Calgary, Alberta
T2G 2M2

Calgary Regional
Planning Commission
4303 - 11 Street SE
Calgary, Alberta
T2G 4X1

Collections Room *
Dept. of Geography
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

Environmental Design *
Unit, 8th Floor
Library Tower
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

The Library *
Mount Royal College
4825 Richard Rd SW
Calgary, Alberta
T3E 6K6

Resource Centre Office
Faculty of Environmental
Design
Room 1003A
Earth Science Building
University of Calgary
2920 - 24 Avenue NW
Calgary, Alberta
T2N 1N4

Camrose

Camrose Public
Library
4863 - 50 Street
Camrose, Alberta
T4V 0P6

Canmore

Canmore Public Library
Box 460
Canmore, Alberta
T0L 0M0

Carstairs

Carstairs Library
Box 128
Carstairs, Alberta
T0M 0N0

Coronation

Coronation Community
Library
Coronation School
Coronation, Alberta
T0K 1C0

Drumheller

Drumheller Public *
Library
Box 1599
Drumheller, Alberta
T0J 0Y0

Edmonton

Alberta Environment *
Library
14th Floor
Oxbridge Place
9820 - 106 Street
Edmonton, Alberta
T5K 2J6

Alberta Legislature
Library
Room 216
Legislature Building
Edmonton, Alberta
T5K 2B6

Edmonton Regional
Planning Commission
Library
602, 10025 - 106 Street
Edmonton, Alberta
T5J 1G6

Government *
Publications
University of Alberta
Library
Edmonton, Alberta
T6G 2J8

Edson

Edson Public Library
Box 249
Edson, Alberta
T0E 0P0

Fort McMurray

Fort McMurray Public
Library
9912A Franklin Avenue
Fort McMurray, Alberta
T9H 2K6

Grande Prairie

Grande Prairie Public
Library
10032 - 100 Avenue
Grande Prairie, Alberta
T8V 0V3

* These information centers have a complete set of the proceedings of each public hearing.

Grande Prairie Regional *
College Library
10726 - 106 Avenue
Grande Prairie, Alberta
T8V 4C4

South Peace Regional *
Planning Commission
Resource Centre
200 Windsor Court
9835 - 101 Avenue
Grande Prairie, Alberta
T8V 0X6

Hinton

Hinton Municipal
Library
Box 818
Hinton, Alberta
T0E 1B0

Lacombe

Parkland Regional
Library
Alberta Agriculture
Building
Lacombe, Alberta
T0C 1S0

Lacombe Public Library
Lacombe, Alberta
T0C 1S0

Lethbridge

Buchanan Resource *
Centre
Lethbridge Community
College
Lethbridge, Alberta
T1K 1L6

Government Documents
Office
University of Lethbridge
Library
Lethbridge, Alberta
T1K 3M4

Lethbridge Public *
Library
810 - 5th Avenue S
Lethbridge, Alberta
T1J 4C4

Library
Oldman River Regional
Planning Commission
905 - 4th Avenue S
Lethbridge, Alberta
T1J 4E4

Olds

Olds Municipal Library
Box 968
Olds, Alberta
T0M 1P0

Peace River

Peace River Municipal
Library
9807 - 97 Avenue
Peace River, Alberta
T0H 2X0

Red Deer

Red Deer Public *
Library
4818 - 49 Street
Red Deer, Alberta
T4N 1T9

Red Deer Regional *
Planning Commission
Library
2830 Bremner Avenue
Red Deer, Alberta
T4R 1M9

Reader's Service
Librarian
Red Deer College
Library
56 Avenue & 32 Street
Red Deer, Alberta

Sherwood Park

County of Strathcona
Municipal Library
Government Documents
Section
2001 Sherwood Drive
Sherwood Park, Alberta
T8A 3J4

Spruce Grove

Spruce Grove Public
Library
Box 2759
Spruce Grove, Alberta
T0E 2C0

Vegreville

Vegreville Public Library
Box 129
Vegreville, Alberta
T0B 4L0

Vermilion

Lakeland College *
Library
Vermilion, Alberta
T0B 4M0

Vermilion Public
Library
Box 476
Vermilion, Alberta
T0B 4M0

Westlock

Westlock Municipal
Library
Box 1198
Westlock, Alberta
T0G 2L0

Wetaskiwin

Battle River Regional *
Planning Commission
Library
5014 - 48 Avenue
Wetaskiwin, Alberta
T9A 0M9

Whitecourt

Whitecourt Public Library *
Box 150
Whitecourt, Alberta
T0E 2L0

* These information centers have a complete set of the proceedings of each public hearing.